

## APPLICATIONS FOR ADMISSION AND FOR TRANSFER

The Constitution provides that the Board of Direction shall elect or reject all applicants for *Admission* or for *Transfer*, and, in order to determine justly the eligibility of each candidate, the Board must depend largely upon the Membership for information.

This list is issued to members in every grade for the purpose of securing all such available information, and every member is urged to scan carefully each monthly list of candidates and to furnish the Board with data in regard to any applicant which may aid in determining his eligibility. It is the *Duty* of all *Members* to the *Profession* to assist the Board in this manner.

It is especially urged, in communications concerning applicants, that errors in the record be pointed out and a *Definite Recommendation as to the Proper Grading in Each Case* be given, inasmuch as the grading must be based upon the opinions of those who know the applicant personally, as well as upon the nature and extent of his professional experience. If facts exist derogatory to the personal character or to the professional reputation of an applicant, they should be promptly communicated to the Board. *Communications Relating to Applicants are considered by the Board as Strictly Confidential.*

The Board of Direction will not consider the applications herein contained from residents of North America until the expiration of thirty (30) days, and from Non-Residents of North America until the expiration of ninety (90) days from November 1, 1924.

### MINIMUM REQUIREMENTS FOR ADMISSION

Grade	General Requirement	Age	Length of Active Practice	Responsible charge of work
Member	Qualified to design as well as to direct work	30 years	10 years*	5 years
Associate Member	Qualified to direct work	25 years	6 years*	1 year
Junior	Qualified for sub-professional work	18 years†	2 years*	
Affiliate	Qualified by scientific acquirements or practical experience to co-operate with engineers			
Fellow	Contributor to the permanent funds of the Society			

\* Graduation from a school of engineering of recognized reputation is equivalent to 2 years' active practice.

† Membership ceases at age of 32 unless transferred to higher grade.

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The Constitution provides that the Board of Education shall elect or reject all applicants for admission or for transfer and in order to determine fairly the eligibility of each candidate the Board must depend largely upon the Membership for information.

This list is issued to members in every grade for the purpose of securing all such available information.

## LIST OF APPLICANTS.

Names and Addresses of Applicants for Admission and for Transfer on this Preliminary List, Arranged Alphabetically.

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Admitted	Qualified by academic records or by practical experience in co-operative work
Fellow	Contributor to the permanent funds of the Society

\* Graduation from a school of engineering or mechanical education is required for 3 years' active practice.  
 † Membership ceases at age of 22 unless transferred to higher grade.

The fact that applicants give the names of certain members as references does not necessarily mean that such members endorse.

The numbers at the left of each name indicate the serial number of the applicant for the current year, and the district in which he resides.

The abbreviations in *italics* represent, respectively, *TT*, Total Time; *SP*, Sub-Professional Work; *P*, Professional Work; *RC*, Responsible Charge; *D*, Design. The figures showing the amount of time spent in Responsible Charge and on Design are the estimate of the Applicant. The allowance of two years for graduation and of one-third of a year for each academic year successfully completed in an engineering college without graduation are included in Total Time and Sub-Professional Work.

### FOR ADMISSION

888 (4) **ALDERSON, GEORGE FRANCE**, 113 S. Broad St., Kennett Square, Pa. (Age 30. Born Federalsburg, Md.) 1915 B. S. in Civ. Eng., and 1922 C. E., Univ. of Del. June 1915 to March 1916 Instrumentman, E. I. duPont de Nemours & Co., Hopewell, Va., on construction of industrial village, Chf. of surveying party, responsible for layout and grades on streets and sewers. *TT* 2.8: *SP* 2.8. April 1916 to March 1918 Asst. Engr., Longwood, Inc., Constr. Div., Kennett Square, Pa., engineering and construction on development of Pierre S. du Pont's country estate, landscape work with artificial lakes, fireproof dwellings, etc.; Asst. to Chf. Engr. in direct charge of each operation in field. *TT* 2: *SP* 0.5: *P* 1.5. April 1918 to April 1919 Civ. Engr. with DuPont Eng. Co. constructing U. S. Smokeless Powder Plant, Nashville, Tenn.; on construction of model industrial village, in charge of engineering field work on sewer construction in village, responsible for profiles, grades and inspection, and later mapping of completed system. *TT* 1: *P* 1. May 1919 to March 1924 Constr. Engr., Longwood, Inc., Constr. Div., designed and in charge of construction of water-supply system for large country estate (supply obtained by damming creek 4 miles from estate and forcing water by means of a water wheel through 4-mile wood stave line against static head of 190 ft. into reservoir on the estate); Constr. Supt. and assembling and recording cost data on construction of 3-mile section of concrete boulevard from Kennett Square to Wilmington, Del., with 80-ft. right-of-way and concrete pavement 24 to 30 ft. wide; Res. Engr. in charge of all construction work on group of 18 horticultural buildings (concrete, steel and bronze, glass roofs, cost over \$2 000 000). *TT* 4.7: *P* 4.7: *RC* 4.7: *D* 1. April 1924 to date Res. Engr. and Constr. Supt. with William M. Francis, Contr. and Engr., West Chester, Pa., in complete charge of office and field constructing modern fire-proof hospital (cost \$800 000). *TT* 0.7: *P* 0.7: *RC* 0.7: *D* 0.1. *TT* 11.2: *SP* 3.3: *P* 7.9: *RC* 5.4: *D* 1.1. Refers to W. S. Corkran, W. M. Francis, J. B. Jackson, E. H. Lawrence, A. J. Saville, A. J. Taylor, W. R. Warman.

889 (1) **ANDERSEN, AKSEL PAULI**, 567 Fifth St., Brooklyn, N. Y. (Age 32. Born Tynset, Norway.) 1913 B. S., Civ. Eng. Dept., Tech. Coll., Christiania, Norway. 1920 M. S., Mass. Inst. Tech. June 1913 to Sept. 1917 Asst. Engr., Dept. of Bridges, Norwegian State R. Rs., on design of steel, stone and reinforced concrete bridges, foundations, falseworks, and estimates, including several statically indeterminate structures (stone and steel arches). *TT* 6.2: *SP* 2: *P* 4.2: *RC* 2: *D* 3.5. Sept. 1917 to June 1919 Asst. to Prof. of Statics and Bridge Eng., Inst. of Technology, Trondhjem, Norway. *TT* 1.8: *P* 1.8: *RC* 0.9. Oct. 1919 to June 1920 Graduate Student, statics, bridge engineering, etc., Massachusetts Inst. of Technology. *TT* 0.7: *P* 0.7. June to Sept. 1920 Designer, Chas. T. Main Co., Boston, Mass., steel structures for industrial buildings. *TT* 0.2: *P* 0.2: *D* 0.2. Sept. 1920 to June 1921 Graduate Student, structural engineering, theory of structures, etc., Univ. of Wisconsin. *TT* 0.8: *P* 0.8. July 1921 to April 1922 Designer, steel structures for coal- and ash-handling machinery, C. W. Hunt Eng. Corporation (later Chillingworth Eng. Corporation).

New York City. *TT 0.8: P 0.8: D 0.8.* April to June 1922 with James Mitchell, Inc., Jersey City, N. J., on design and estimating, reinforced concrete and steel structures for buildings. *TT 0.2: P 0.2: D 0.1.* June 1922 to date Designer for Gustav Lindenthal, Cons. Engr., New York City, calculations, detail design, estimating and calculation of deformations in connection with proposed Hudson River Bridge at 57th St.; Lindenthal's design for Sydney Harbor Bridge, Australia; Sellwood Bridge and Ross Island Bridge in Portland, Ore., and several other bridge projects. *TT 2.2: P 2.2: RC 1.1: D 2.2. TT 12.9: SP 2: P 10.9: RC 4: D 6.8.* Refers to O. H. Ammann, W. A. Cuenot, G. Lindenthal, E. F. Robinson, C. M. Spofford, F. E. Turneure.

**890 (11) BACON, ROBERT HAROLD,** 136 So. Normandie Ave., Los Angeles, Cal. (Age 46. Born Grand Rapids, Mich.) 1902 A. B., Leland Stanford, Jr., Univ. June 1902 to April 1905 Draftsman, City Eng. Dept., Los Angeles, Cal.; Engr., 2d Class, same department. *TT 4.8: SP 3: P 4.8: D 1.8.* April 1905 to April 1906 Draftsman with Edgar T. Wheeler, designing and making plans for bridges, viaducts, dams, wharves and other structures. *TT 1.1: P 1.1: D 1.1.* April 1906 to April 1907 Asst. Engr., Mercereau Bridge & Constr. Co. of Los Angeles, on bridge plans and estimates. *TT 1: P 1: D 1.* April 1907 to March 1923 Asst. Engr., Eng. Dept., Los Angeles, on storm drain and paving designs, bridge inspection testing, and (during war, 2 years) map drafting and construction. *TT 15.9: SP 2: P 13.9: RC 7.9: D 6.* March 1923 to April 1924 Structural Engr., and May 1924 to date Chf. Structural Engr., Eng. Dept., Los Angeles. *TT 1.5: P 1.5: RC 1.5. TT 24.3: SP 5: P 19.3: RC 9.4: D 9.9.* Refers to M. Butler, J. A. Griffin, C. D. Marx, H. Z. Osborne, C. J. Shults, W. H. Spear, T. E. Stanton, Jr., H. H. Winter, J. C. Wright.

**891 (11) BALLINGER, RAY ELNATHAN,** 517 Public Service Bldg., Los Angeles, Cal. (Age 32. Born Seattle, Wash.) Feb. 1909 to Feb. 1912 Draftsman, Pacific Telephone & Telegraph Co., San Francisco, Cal., mapping telephone wiring diagrams, Inspector of work under construction. *TT 3.* April to Dec. 1912 Draftsman, Midway Gas Co., Los Angeles, Cal., mapping, steel detailing, design of gas-measuring pitot tubes and orifice meters. *TT 0.7: D 0.2.* Jan. 1913 to Nov. 1915 Draftsman and Chf. of Party, Southern California Gas Co., Los Angeles, surveying and mapping, design of gas-measuring instruments and pipe layouts, valuation work in field and office, boiler tests, etc. *TT 2.9: D 1.* Nov. 1915 to June 1916 Topographic Draftsman, Bureau of Power and Light, Los Angeles, mapping, hydraulics and hydrography in development of power, surveying, dams, weirs, power houses, etc. *TT 0.6: D 0.2.* April 1917 to April 1918 Draftsman, same Bureau, on hydraulic computations, hydrography, surveys for hydro-electric development, and dam design. *TT 1: RC 0.5: D 0.5.* April to Dec. 1918 with U. S. Army, Graduate School of Fire for Field Artillery Officers, Ft. Sill, Okla.; commissioned 2nd Lieut., Aviation. *TT 0.7: RC 0.5.* Jan. 1919 to date Jun. Civ. Engr., Bureau of Power and Light, Los Angeles; Res. Engr. on power-plant construction; hydraulic design on dams, weirs, penstocks, surge chambers, etc.; in charge of all survey work of Department, topographic, stadia, triangulation, etc. *TT 5.5: RC 4: D 1.5. TT 14.4: RC 5: D 3.4.* Refers to E. A. Bayley, H. F. Blaney, A. J. Ford, W. W. Hurlbut, D. L. Reaburn, H. A. Van Norman.

**892 (8) BAUER, EDWARD EZRA,** 709 W. Stoughton St., Urbana, Ill. (Age 28. Born Rocky Ridge, Ohio.) 1919 B. S. in C. E., Univ. of Ill. Oct. 1919 to June 1920 Asst. in Highway Eng., Univ. of Illinois, taught railroad and topographic surveying and construction of roads and pavements. June to Sept. of years 1920 and 1921 Asst. Engr., City of Urbana, Ill., on concrete pavement construction. *TT 3.3: SP 2: P 1.3: RC 0.6.* Sept. 1920 to date Instructor in Highway Eng., Univ. of Illinois; taught railroad surveying and construction of roads and pavements (2 years) and plain concrete and construction of roads and pavements (2 years); June to Sept. 1922 Engr. for Clark County, Ill., in charge of construction of 1¼ miles of concrete and 3¼ miles of gravel pavement and several concrete bridges (value of work \$100 000). June to Sept. 1923 Res. Engr., Wells Eng. Co., on construction of Lincoln Highway through Batavia, Ill. (brick, cost approx. \$115 000). June to Sept. 1924 Asst. Engr., City of Urbana, in charge of field work and construction; revised specifications and pavement details; made set of new pavement plans, including design of new bridge; spread ten assessment rolls (cost of construction approx. \$200 000). *TT 3.7: P 3.7: RC 2.3: D 0.1. TT 7: SP 2: P 5: RC 2.9: D 0.1.* Refers to F. T. Sheets, J. E. Smith, A. N. Talbot, C. C. Wiley, C. C. Williams.

**893 (7) BEAUVAIS, PHILIP HENRY,** 215 Hendrie Boulevard, Royal Oak, Mich. (Age 36. Born Muskegon, Mich.) 1907 to 1916 Rodman and Transitman on lake surveys for U. S. Engr. Dept.; then Chf. of Party, and later on construction of piers and breakwaters, design



and supervision of construction as Engr.-in-Chg. on work amounting to several million dollars. *TT 9: RC 5: D 2.* 1916 to 1918 Supt. and Engr. in charge of construction of Manistee Breakwater for U. S. Govt. *TT 2: RC 2.* 1918 to 1921 City Mgr. and City Engr., Manistee, Mich., in charge of sewer, pavement, water distribution, bridges, and building design and construction. *TT 3: RC 1.5: D 1.5.* 1921 to date City Mgr. and City Engr., Royal Oak, Mich., in charge of design and construction of sewers, pavements, water distribution, buildings, etc. *TT 4: RC 2: D 2.* *TT 18: RC 10.5: D 5.5.* Refers to A. J. Decker, W. R. Drury, W. C. Hoad, G. H. Ruhling, W. C. Russell, E. C. Shoecraft.

**894 (7) BECKER, ROLAND HENRY**, 326 Twenty-second St., Milwaukee, Wis. (Age 24. Born Milwaukee, Wis.) 1923 S. B., Mass. Inst. Tech. Sept. 1922 to June 1923 Asst. Instructor in Civ. Eng., Massachusetts Inst. of Technology. *TT 2: SP 2.* Sept. 1923 to date Instructor in Civ. Eng., Coll. of Eng., Marquette Univ.; conducted classes in strength of materials, material testing laboratory and surveying; since June 1923 also private work as Surveyor. *TT 1: P 1.* *TT 3: SP 2: P 1.* Refers to J. G. Bennett, J. W. Howard, J. C. Pinney, C. M. Spofford, T. H. Trams.

**895 (5) BELL, ARCHIBALD HUSTON**, Suffolk, Va. (Age 41. Born Mount Sidney, Va.) 1906 Va. Mil. Inst., and 1924 C. E., same Inst. Aug. 1907 to Aug. 1909 Transitman for S. H. Meen, Civ. and Min. Engr., Bluefield, W. Va., on railroad and coal-mine development. *TT 4: SP 4.* April 1910 to May 1912 Supt. and Engr., Jewell Ridge Coal Co., on supervision of installation of coal-mine operation. *TT 2.1: P 2.1: RC 2.1.* May 1912 to March 1914 Engr., Premier Poc. Coll. Co., operating five mines. *TT 1.8: P 1.8: RC 1.8.* Aug. 1916 to May 1917 and Aug. to Nov. 1917 Inspector of macadam and surface treatment of roads, Virginia State Highway Comm. *TT 1.2: P 1.2: RC 1.2.* Dec. 1917 to March 1924 with same Commission, until April 1922 as Res. Engr. in charge of all state road construction and maintenance in five counties, at Front Royal (Dec. 1917 to Aug. 1919) and in twelve counties, at Fredericksburg (Sept. 1919 to April 1922); since then Dist. Engr., at Suffolk, in charge of same work in fourteen counties. *TT 6.3: P 6.3: RC 6.3.* *TT 15.4: SP 4: P 11.4: RC 11.4.* Refers to J. C. Carpenter, J. H. Cosby, T. Ellett, W. R. Gidden, W. W. McClevy.

**896 (1) BROWN, HENRY GASSAWAY, Jr.**, 32 N. Arlington Ave., East Orange, N. J. (Age 23. Born Baltimore, Md.) 1922 C. E., Cornell Univ. July 1922 to May 1923 Jun. Engr. in City Engr.'s office, East Orange, N. J., surveying, drafting and inspecting on street and sewer work. *TT 2.8.* May to Dec. 1923 Instrumentman on plane-table topography, topographic leveling, and land line surveys, Dixie Constr. Co. of Birmingham, Ala. *TT 0.6.* Jan. 1924 to date Eng. Asst., Public Service Production Co. of Newark, N. J., on Kearny Power Plant. *TT 0.7: RC 0.5.* *TT 4.1: RC 0.5.* Refers to F. A. Barnes, C. Crandall, M. S. Long, H. N. Ogden, J. E. Perry, W. H. Reilly, F. J. Seery.

**897 (9) BROWNFIELD, WYATT ANDREW**, 1862 Vassar Drive, Louisville, Ky. (Age 36. Born near Elizabethtown, Ky. Sept. 1909 to 1914 with Louisville & Nashville R. R., successively as Instrumentman (over 1 month), Topographer (over 9 months), Asst. Res. Engr. on construction (6 months), Transitman (6 months), Asst. to Locating Engr., in charge (over 9 months), and Asst. Engr. on construction of yards and terminals, in charge (3 years). *TT 5.7: RC 4.3: D 3.7.* 1915 Asst. Engr. to Pres., commercial reconnaissance, Nashville, Chattanooga & St. Louis Ry., in charge. *TT 0.8: RC 0.8: D 0.8.* 1915 to 1917 Highway Engr., Inspector, Kentucky State Highway Dept. *TT 1.7: RC 1.7: D 1.7.* 1917 (about 2 months) Asst. Engr., Supt., Sewer and Water Dept., U. S. Quartermaster Corps, Camp Taylor; 1917 to 1919 with U. S. Constr. Quartermaster Corps, as Asst. Supt. of Materials (over 3 months) at Camp Taylor; Supt. of Material Distribution, Newark Port Terminal (about 5 months); Supt. of Materials and Transportation, Remount Depot, Charleston Port Terminals and Ordnance Depot (over 7 months); Supervisor of Material Distribution (about 5 months), and Gen. Supt., Materials, Warehouses and Yards (6 months), at Camp Knox. *TT 2.4: RC 2.4.* 1920 to 1921 Chf. Engr. and Gen. Mgr., Hardin Oil Co. (Ky.) *TT 0.6: RC 0.6: D 0.6.* 1921 to 1922 City Engr., Providence, Ky. *TT 1.5: RC 1.5: D 1.5.* 1922 to 1923 (1 year) Asst. Chf. Engr., and 1923 to date (1 year) Chf. Engr., Kentucky Rock Asphalt Co., Louisville. *TT 2: RC 2: D 2.* *TT 14.7: RC 13.3: D 10.3.* Refers to W. L. Caldwell, J. H. Conzelman, F. E. Lamphere, H. Puckett, A. J. Sackett, G. R. Smiley, J. E. Willoughby.

**898 (5) BRUNING, JOHN HENRY**, City Hall, Newport News, Va. (Age 35. Born Baltimore, Md.) Certified Prof. Engr., State of Virginia. Sept. 1905 to Jan. 1924 with Newport News Shipbuilding & Dry Dock Co. as follows: Sept. 1905 to Sept. 1914 Ship Draftsman on

construction of hulls; Sept. 1914 to Jan. 1918 drafting, inspection and field work for construction and maintenance of mill buildings, overhead trestles, dry docks, wharves and machine foundations; Jan. 1918 to Jan. 1924 Chf. Draftsman, Civ. Eng. Dept., supervising such work; Jan. to April 1924 Draftsman on heavy machine foundations and oil-burning furnaces. *TT 18.6: SP 4: P 14.6: RC 6: D 8.6.* April 1924 to date Acting Director of Public Works, City of Newport News, on supervision of design, construction and maintenance of sewers, streets, viaducts, garbage disposal, public buildings, parks, etc. *TT 0.4: P 0.4: RC 0.4. TT 19: SP 4: P 15: RC 6.4: D 8.6.* Refers to J. L. Becton, D. A. Decker, L. S. Edwards, J. N. R. Eubank, H. D. Hinman, G. C. Love, G. L. Smith.

899 (1) CANAVAN, PATRICK FRANCIS, 100 Morningside Drive, New York City. (Age 32. Born New York City.) Oct. 1912 to June 1914 Student, School of Eng., Columbia Univ. June to Sept. 1913 Asst. Supt. with Carrere & Hastings, New York City, on Frick residence, inspection, design, reports and field notes. *TT 1: D 0.1.* June 1914 to Oct. 1915 Jun. Asst. Engr., United Realty & Improvement Co., being Rodman, Instrumentman, and on progress estimates, layout work, subsurface structures, underpinning of buildings on Broadway-Seventh Ave. Subway contract. *TT 1.3.* Oct. 1915 to Nov. 1917 Pres., Canavan Contr. Co., general foundation business, in New York City, comprising earth and rock excavation, shoring, concrete work. *TT 2.1: RC 2.1.* Nov. 1917 to April 1919 with 1st Telegraph Battalion, Am. Exp. Forces, in France, constructing lines of communication and alteration and design of material-handling equipment at depot warehouses. *TT 1.5: D 0.3.* May 1919 to Aug. 1920 Asst. Supt., Turner Constr. Co., in charge of excavation, foundation work for power plant for French Govt. on Isle Saint Pierre off coast of Newfoundland; also on U. S. Aluminum Co. Plant at Edgewater, N. J.; Supt. on new building of Barrett Roofing Co., New Jersey, Hudson Bag Bldg., Brooklyn, N. Y. (both reinforced concrete) (work approx. \$3 000 000). *TT 1.3: RC 1.3.* Sept. 1920 to Feb. 1921 Supt. for Rodgers & Hagerty, Contrs., foundations of New York County Court House, in charge of placing foundation; concrete and reinforcement (over \$1 000 000). *TT 0.5: RC 0.5.* March 1921 to date Gen. Supt., Friestedt Underpinning Co., New York City, general engineering work, installing foundations on some large buildings, such as, Roosevelt Hotel; Library, Teachers Coll., Columbia Univ.; and numerous large apartments; work includes earth and rock excavation, shoring, sheath piling, concrete foundations (approx. \$3 000 000). *TT 3.5: RC 3.5. TT 11.2: RC 7.4: D 0.4.* Refers to F. Bagge, T. C. Desmond, J. L. Jewell, H. C. Paddock, G. Simpson, T. A. Smith.

900 (3) CHAMBERLAIN, HAROLD NASH, 58½ Oxford Road, New Hartford, N. Y. (Age 28. Born Port Dickinson, N. Y.) Licensed Prof. Engr. and Land Surveyor, State of New York. 1917 C. E., Rens. Pol. Inst. July to Sept. 1914 Chainman and Draftsman with A. L. Gilmore, C. E., Binghamton, N. Y. July to Sept. 1915 Instrumentman and Draftsman, Binghamton Bridge Co. July to Sept. 1916 member of firm, Gilmore & Chamberlain, Civ. Engrs., Binghamton, on various surveys, including design and supervision of construction of brick pavement, Village of Union, N. Y. *TT 2.* July 1917 to March 1918 Vice-Pres. and Treas., Binghamton Eng. Co., Village Engrs., Union and Port Dickinson, N. Y., surveys and lot subdivisions, design of structural details, Hires Condensed Milk Co., of swimming pool, Endicott-Johnson Co., and coal bunkers and automatic stokers, Binghamton Ry. Co. *TT 0.7: RC 0.4: D 0.3.* March 1918 to Feb. 1919 Constr. Engr., E. I. duPont de Nemours Co., Haskell, N. J., actual charge and supervision of \$1 500 000 housing development, including dwellings for 180 families, streets, walks, water supply, electricity, sewers with two trunk sewers and sewage-disposal plant. *TT 0.9: RC 0.5: D 0.4.* Feb. 1919 to July 1924 Teacher of Structural Drafting, Machine Design, Strength of Materials, etc., in Federal Vocational and State Unit Technical Classes at Utica (N. Y.) Free Acad. *TT 4.1: RC 4.1.* July to Sept. 1919 Asst. to City Engr. of Utica, in charge of East Utica sanitary and storm water sewers, and 16th Ward sanitary sewers. *TT 0.2: RC 0.1: D 0.1.* July to Sept. 1920 Constr. Engr., Harry W. Roberts Co., Utica, in charge of automatic unloading plant and construction of concrete highway, Deerfield, N. Y. *TT 0.2: RC 0.2.* July 1922 to July 1924 associated with Clifford Lewis, Jr., in design of sewage-disposal plant for 17th Ward, Utica, consisting of trunk sewer, Imhoff tanks, sludge beds, trickling filters, pump houses, dike, etc. (design not completed). *TT 1: D 1.* July 1924 to date Asst. to City Engr. of Utica, in charge of design of pavements, sanitary and storm water sewers, culverts and surveys. *TT 0.2: RC 0.1: D 0.1. TT 9.2: RC 5.2: D 1.9.* Refers to R. S. Cookinham, T. R. Lawson, C. Lewis, Jr., P. C. Ricketts, G. S. Thompson, B. E. White.

901 (1) CHILDS, FRED SAMUEL, 150 Nassau St., Room 1122, New York City. (Age 33. Born Lynn, Mass.) June 1911 to Jan. 1912 Chainman and Asst. Topographer, Boston & Maine R. R. *TT 0.5: SP 0.5.* Jan. to April 1912 Rodman, Levelman and Draftsman, New

York, New Haven & Hartford R. R. TT 0.2: SP 0.2: April 1912 to June 1916 with B. & M. R. R., until June 1914 in Constr. Eng. Dept., 2 years as Levelman, Inspector, Chf. of Party and Estimator, assisted in laying out and in charge of relocation, land lines, grading, track and street work, concrete and bridge foundations, etc., on construction; then, for about 2 months on final inspection of Billerica Shops and report on final acceptance; last 2 years Chf. of Party, Valuation Dept.: Draftsman on plotting of valuation surveys for Boston Terminal, etc.; in charge of making valuation survey and plans of Portsmouth (N. H.) Elec. Ry. TT 4.2: SP 0.8: P 3.4: RC 3.2. June 1916 to Nov. 1917 Constr. Engr. and Asst. Supt., T. Stuart & Sons Co., Gen. Contrs. and Ry. Bldrs., Newton, Mass., until April 1917 on \$2 000 000 yard facilities project for B. & M. R. R., Greenfield, Mass., involving building of tracks, coal trestle, hoppers, ash pits, water columns, water, sewer and air systems, etc.; then in charge of widening Benton Falls Canal for additional power, steam shovel, track and grading work for Central Maine Power Co. (April to July 1917), of building retaining walls, water chambers, coffer dam and intake line for Wyandotte Mills Co., Waterville, Maine (July to Sept. 1917) and of rebuilding of Portsmouth Elec. R. R. (Sept. to Nov. 1917). TT 1.5: P 1.5: RC 1.5. Nov. 1917 to Sept. 1920 with U. S. military service, first as Sergeant, June 1919 commissioned 1st Lieut., in charge of water, repair and maintenance, Camp Devens, Mass., to build 1 000 000-gal. water system; Aug. 1918 transferred to Camp Lee, Va., acted as Supply Officer, Detachment Commander, Officer in Charge of Small Heating Plants, Asst. to Officer in Charge of Water and Sewerage Systems, Officer in Charge of Roads and Drainage; later Utilities Officer, Gen. Hospital No. 10, Parker Hill, Boston, Mass.; Utilities Officer, Washington, D. C., in charge of maintenance, repair and operation of all utilities in buildings under Depot Quartermaster for Washington and immediate vicinity. TT 2.8: P 2.8: RC 1.8. D 1. Oct. 1920 to June 1921 Senior Engr., Interstate Commerce Comm., Washington, D. C., on valuation of railroads. TT 0.7: P 0.7. June 1921 to July 1923 Res. Engr., George A. Johnson Co., Cons. Engrs., New York City, in charge of supervision of construction of modern rapid sand water filtration plant, at Cambridge, Mass. (cost \$767 000); also supervised testing of pumping equipment, pipe-lines, Venturi meters, rate of flow, etc., and later in responsible charge of operating plant and instructing operators. TT 2: P 2: RC 2: D 1. July 1923 to date Prin. Engr. to George A. Johnson, in resident charge of field work for proposed storage dam and reservoir (2 000 000 000 gal.), covering investigation, selection of dam site, topographical and land survey, for City of Flint, Mich. (project approaching contract, probable cost \$1 500 000). TT 1.2: P 1.2: RC 1.2. TT 13.2: SP 1.6: P 11.6: RC 9.7: D 2. Refers to O. L. Brodie, G. A. Johnson, H. C. Stevens, G. L. Watson, C. R. Wyckoff.

902 (1) CHRYSTALL, HARVEY MAITLAND, 885 Colombo St. North, Christchurch, New Zealand. (Age 36. Born Christchurch, New Zealand.) 1912 received degree of Associate in Civ. Eng., School of Eng., N. Z. Univ. 1911 to 1912 Asst. Engr., Lyttelton Harbor Board, on harbor layout, design of ferro-concrete wharf, marine survey and drafting; land survey for F. W. Freeman, Surveyor, Christchurch, New Zealand. TT 3.1: RC 0.6: D 0.5. 1914 to 1915 Chf. Draftsman and Asst. Engr., Nigerian Eastern Ry., Port Harcourt, Southern Nigeria, on drawing and design, survey and layout of railway terminus, etc.; design and construction of buildings of timber and steel. TT 1.6: RC 0.8: D 0.8. 1915 to 1919 with British Royal Engrs., Royal Naval Div., Dardanelles (1915), in France on topographical survey, etc., railway location and construction, and design and erection of water supply stations (1916-1918), and (1919) with Ry. Sous-Comm., at Cologne, Germany, in Reconnaissance Sec., supervising railway construction and maintenance in British Army Bridgehead. TT 5: RC 5. 1920 to 1921 Cons. Civ. Engr., Wales Estates, Ltd., Demarara, British Guiana, on water-conservancy problems, river-protection works, drainage, transport and irrigation of 20 000 acres; layout and construction of transport canals; design and construction of river jetties and cane-handling machinery and of 16-ft. ferro-concrete sluice gates and locks for 30-ft. by 10-ft. steel punts; construction of slipway and erection and launching of 180-ft. steel barges for river transport. TT 1.8: RC 1.8. 1922 Engr. in charge of construction of Kawarau Dam, Clutha River, Central Otago, New Zealand, on design of special gear to handle steel girders (80 by 4 by 3 ft., 15 tons) into dam 120 ft. down cliff; transport of girders through rough country; construction of ferro-concrete girder across river 120 ft. wide to form bridge to support placing of steel flangers on upstream side of bridge, to raise water level 15 ft. to enter concrete head race. TT 0.7: RC 0.7. Nov. 1922 to Aug. 1923 Res. Engr. for H. V. Schreiber, on investigation of Waimakariri Power Project for Christchurch City Corporation. TT 0.7: RC 0.7. Feb. 1924 to date Asst. Engr., Foundation Co., Kinsway, London, investigation of Arapuni Hydro-Elec. Scheme, Waikato River, North Island, New Zealand. At various times in private practice chiefly on small water

power installations, and reports on water supply of Christchurch and private irrigation scheme for 5 000 acres in Central Otago. *TT 0.3: RC 0.3. TT 13.2: RC 9.9: D 1.3.* Refers to H. V. Schreiber. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**903 (10) CLAWSON, EARL MONTGOMERY**, Box 674, Sebring, Fla. (Age 34. Born Indiana, Pa.) Registered Engr., State of Florida. Took Surveying and Mapping Course, International Correspondence School, and Civ. Eng. Course, American School of Correspondence. 4 months Chairman and Rodman for railroad company. *TT 0.3: SP 0.3.* Aug. 1910 to Sept. 1916 Asst. City Engr., field and office, platting and staking allotments, making profiles, and grade plans for streets, calculations of excavation and embankments, running levels and cross-sections, and inspection of sewers, street paving and concrete work. *TT 6.2: SP 5: P 1.2: RC 1.2.* Sept. 1916 to Sept. 1917 Asst. Engr., Pennsylvania R. R. Co., on construction of 20 miles of third track, heavy earth and rock excavation, extension of bridges and culverts, track changes and yard layout; in charge of field work and estimates. *TT 1: P 1: RC 1.* Sept. 1917 to June 1919 Instructor, Intelligence Div., U. S. Army, nearly 1 year in charge of observers in France and Italy. June 1919 to Jan. 1922 with P. R. R. Co., until June 1920 in charge of track and yard layout, plans and estimates of new work, wire crossings, pipe-line crossings and agreements for Legal Dept.; then Asst. Engr. Corps, Eastern Div., in charge of field construction and clean-up of Alliance R. R. Yard, new material and storage sheds, present buildings repaired and painted. *TT 2.5: SP 1: P 1.5: RC 1.* Jan. 1922 to June 1924 Asst. Engr., Dept. of Hard Surfaced Roads, Orange County, in direct charge of several road projects, supervising construction of bridge over St. Johns River, 800-ft. timber trestle, 104-ft. fixed steel span; since then Res. Engr. in charge of road and bridge construction, 44 miles of hard-surfaced roads, 40 miles grade, timber bridges. *TT 2.7: SP 1: P 1.7: RC 1.7: D 0.4. TT 12.7: SP 7.3: P 5.4: RC 4.9: D 0.4.* Refers to C. W. Beck, C. A. Browne, W. S. Earle, G. E. Heller, R. B. Murdock, T. R. Shorey.

**904 (5) COCHRAN, JOHN ANDREWS**, 3407 Carlisle Ave., Baltimore, Md. (Age 21. Born Pittsburgh, Pa.) 1924 B. E., Johns Hopkins Univ. June to Sept. of years 1922 and 1923 Student Engr., Baltimore & Ohio R. R. Co., running and spiraling curves, earthwork and computations, drafting. Nov. 1923 to May 1924 Asst. Instructor in use of drawing instruments and elementary drafting, Maryland Inst., Baltimore, Md. *TT 2: SP 2.* Refers to J. H. Gregory, W. W. Pagon, H. G. Perring, V. B. Siems, E. Stimson, J. T. Thompson, W. W. Varney.

**905 (5) COMBER, THOMAS FRANCIS, Jr.**, The Johns Hopkins Univ., Baltimore, Md. (Age 31. Born Lawrence, Mass.) 1914 B. S., Mass. Inst. Tech. June 1914 to June 1915 Asst. in Civ. Eng. to Prof. C. M. Spofford, Massachusetts Inst. of Technology; Instructor at Summer Surveying Camp. *TT 3: SP 3.* June 1915 to Sept. 1917 with U. S. Realty & Improvement Co., on 7th Ave. Subway from 12th to 28th St., New York City, chiefly on restoration of sub-surface structures. *TT 2.2: SP 1: P 1.2: RC 1.2.* Sept. 1917 to March 1919 Private to 2d Lieut., U. S. Army in France, 29th Engrs., topographic unit attached to 3d Army Corps. *TT 1.5: SP 0.5: P 1: RC 1.* March 1919 to Sept. 1920 Foreman in charge, L. E. Locke & Son, Gen. Contrs., Lawrence, Mass., sewers, water lines and reinforced concrete. *TT 1.3: P 1.3: RC 1.3.* Sept. 1920 to date Instructor in Civ. Eng., The Johns Hopkins Univ. *TT 4: P 4: RC 4. TT 12: SP 4.5: P 7.5: RC 7.5.* Refers to C. F. Allen, C. B. Breed, J. H. Gregory, C. M. Spofford, G. F. Swain, J. T. Thompson.

**906 (15) CONRAD, CHARLES SUMNER**, 720 Giddens-Lane Bldg., Shreveport, La. (Age 30. Born Sedalia, Mo.) Jan. 1914-July 1917 Rodman, Inspector, Instrumentman and Draftsman, and March 1919 to Jan. 1920 Instrumentman, field construction, with Myers & Noyes, Dallas, Tex. *TT 4.2: SP 3.7: P 0.5: RC 0.5.* Jan. to May 1920 Asst. Park Engr., City of Dallas. *TT 0.3: P 0.3: RC 0.3.* May 1920 to April 1921 Draftsman, field geological work and valuation, with Harrison & Eaton, Denver, Colo. *TT 0.9: SP 0.9.* April 1921 to Nov. 1923 Valuation Engr. with Darnell & Eaton, New York City (2 years); Draftsman and Valuation Engr., Texas Pacific Coal & Oil Co., Thurber, Tex. (6 months). *TT 2.5: P 2.5: RC 2.* Nov. 1923 to Feb. 1924 Res. Engr. on sewer construction; Municipal Eng. Co., Dallas. *TT 0.2: P 0.2: RC 0.2.* Feb. 1924 to date Valuation Engr., Mgr., Shreveport (La.) Office of Mattison & Davey. *TT 0.6 P 0.6: RC 0.6. TT 8.8: SP 4.7: P 4.2: RC 3.7.* Refers to J. L. Darnell, E. L. Myers, E. N. Noyes, C. S. Reagan, R. W. Willard, W. Zimmerman.

**907 (13) COTTEN, SHEPARD MARRAST**, 5316 Miles Ave., Oakland, Cal. (Age 35. Born Waco, Tex.) April 1909 to Jan. 1913 (except Sept. 1911 to Aug. 1912 Special Student at Texas Agri. and Mech. Coll., with summer work at Univ. of Texas) Draftsman and Com-



puter on railroad location, construction and maintenance and topographic surveys, with various western railroads. *TT 3.3: SP 3.3.* Jan. 1913 to Oct. 1914 Chf. Draftsman, Arizona Highway Dept., design and plans for highways, bridges and other structures. *TT 1.7: P 1.7: D 1.7.* Oct. 1914 to Jan. 1915 Designer, miscellaneous structures, U. S. Reclamation Service, Salt River Project, Phoenix, Ariz. *TT 0.2: P 0.2: D 0.2.* Jan. to June 1915 Draftsman, Arizona Eastern R. R. *TT 0.4: SP 0.4.* April 1916 to Jan. 1917 Designer and Checker, Bridge Dept., Kansas City Terminal Ry., heavy railroad viaduct and terminal construction (steel and concrete). *TT 0.7: P 0.7: D 0.7.* Sept. to Dec. 1917 Estimator and Computer, Bridge Branch, Div. of Valuation, Interstate Commerce Comm., Chattanooga, Tenn., taking off bridge quantities from plans and notes. *TT 0.2: P 0.2.* Jan. 1918 to Jan. 1919 Bridge and Structural Designer, Arizona State Highway Dept., last 2 months as Asst. Engr. on highway construction. *TT 1: P 1: RC 1: D 1.* Feb. to July 1919 Asst. Engr. on tunnel and outlet conduit construction at Roosevelt Dam, and in charge of silt survey of Roosevelt Lake, for Salt River Valley Water Users Association (Salt River Project). *TT 0.4: P 0.4: RC 0.4.* July 1919 to Oct. 1922 Asst. Engr., City of Phoenix, in charge of office and of design of pavements, sewers and miscellaneous structures in connection with extensive improvement program; made studies and reports on various matters. *TT 3.2: P 3.2: RC 3.2: D 3.2.* Oct. 1922 to Oct. 1923 Associate Civ. Engr., Public Works Dept., Mare Island Navy Yard, Cal., design of heavy reinforced concrete and timber structures, including quay-walls, wharves and dikes. *TT 1: P 1: D 1.* Oct. 1923 to date Structural Engr., Oakland-Alameda Estuary Tube, Alameda County Project, design of subaqueous tube, approaches, and ventilation buildings. *TT 0.9: P 0.9: RC 0.9: D 0.9.* *TT 13.3: SP 3.7: P 9.6: RC 5.6: D 8.9.* Refers to M. C. Collins, L. M. Cox, A. W. Earl, C. P. Howes, F. A. Noetzi, H. S. Reed, G. N. Wheat.

**908 (5) DERBY, AUSTIN CLARK**, 5303 St. George's Ave., Baltimore, Md. (Age 23. Born Schenectady, N. Y.) 1922 C. E., Syracuse Univ. July to Dec. 1922 Inspector on concrete roads and bridges, Instrumentman and Draftsman, Baltimore County Roads Dept. *TT 2.4: SP 2.4.* Dec. 1922 to date Field Clerk of Bldg. Constr., Frank D. Priory, Inc., timekeeping, assembling new costs on parts of building operations, minor supervision. *TT 1.8: SP 1.3: TT 4.2: SP 4.2.* Refers to C. A. Cummins, W. A. Lyon, L. Mitchell, S. D. Sarason, H. G. Shirley.

**909 (7) EVERETT, ROY EDWARD**, R. D. No. 9, Jackson, Mich. (Age 25. Born Jackson, Mich.) 1922 B. S. in E. (Civ. Eng.), Univ. of Mich. June 1922 to July 1924 Bridge Draftsman and Designer of reinforced concrete bridges, Michigan State Highway Dept. *TT 4.1: SP 2: P 2.1: RC 1.1: D 2.1.* July 1924 to date Designer, Commonwealth Power Corporation, Jackson, Mich., structural design on hydro-electric power plant. *TT 0.1: P 0.1: D 0.1.* *TT 4.2: SP 2: P 2.2: RC 1.1: D 2.2.* Refers to J. H. Cissel, G. C. Dillman, L. M. Gram, E. Maerker, H. E. Riggs, C. Van Eenenaam.

**910 (2) FREEMAN, ROBERT PORTER**, 26 Vernon St., Halifax, N. S., Canada. (Age 36. Born Halifax, N. S., Canada.) 1915 B. Sc. in Civ. Eng., Dalhousie Univ. and N. S. Tech. Coll. May 1908 to Oct. 1910 Chainman, Rodman and Instrumentman, Transcontinental Ry. *TT 4.5: SP 4.5.* April to Oct. 1911 Instrumentman, Canadian Pacific Ry. April 1912 to Oct. 1913 Res. Engr., Canadian National Rys., on construction. *TT 1.5: P 1.5: RC 1.5.* May to Oct. 1914 Inspecting Engr., Nova Scotia Provincial Highway Board, on highway and smaller bridge work. May to Oct. 1915 Highway and Bridge Engr. with same Board on final inspection of highway and bridge contracts, recommendations on renewal of old bridges, special bridge problems in faulty construction, destruction of under water cribwork by worms, etc. *TT 0.5: P 0.5: RC 0.5.* Oct. 1915 to Oct. 1916 in private practice, surveying, subdivisions, reinforced concrete design and construction, preliminary investigation and development of water-power projects. *TT 1: P 1: RC 1: D 0.2.* 1916 to 1919 (2½ years) Officer, Canadian Heavy Artillery, 1½ years in France. May 1919 to Oct. 1922 Chf. Executive for associates in connection with operations in building construction and purchase and sale of properties; from Aug. 1919 to Aug. 1922 Chf. Industrial Surveyor for Dept. of Soldiers Civil Re-establishment, Eastern Canada, on industrial surveys and industrial relations; in charge of organization work for the department, including organization and operation of numerous departments and systems, field and office. *TT 2.5: P 2.5: RC 2.5.* Oct. 1922 to Jan. 1923 Chf. of parties on transmission line surveys for Nova Scotia Power Comm., related work, such as design, preparation of specifications, etc. *TT 0.3: P 0.3: RC 0.3: D 0.1.* Jan. 1923 to July 1924 Res. Engr. and Supt. of Constr., Nova Scotia Power Comm., on Malay Falls Hydro-Electric Development, Sheet Harbor System. *TT 1.4: P 1.4: RC 1.4: D 0.2.* *TT 11.7: SP 4.5: P 7.2: RC 7.2: D 0.5.* Refers to H. Holgate, C. D. Howe, J. W. Roland, J. C. Smith. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**911 (10) FULLER, ROBERT BENJAMIN**, 416 South Boylan Ave., Raleigh, N. C. (Age 30. Born Merriweather County, Ga.) 1919 C. E. Univ. of Cincinnati. June 1915 to Sept. 1916 Asst. Engr., A. L. Drum & Co., St. Ry. Engrs., Chicago, Ill.; Asst. to Engr. making inventory, listing and pricing for valuation of street railway power plants, rolling stock, etc.; traffic survey and study to determine advisability of building rapid transit subway. *TT 3.3: SP 3.3.* Oct. 1919 to April 1920 Bridge Inspector, Morgan Eng. Cos., Memphis, Tenn., laying out bridges (in field) and inspection of materials and work on reinforced concrete and steel bridges. *TT 0.5: P 0.5.* April 1920 to April 1921 Res. Engr., Lockwood, Greene & Co., Engrs., Atlanta, Ga., full engineering direction of construction of cotton mill improvements, community buildings and residences; later in office in charge of writing and passing on construction contracts. *TT 1: P 1: RC 0.5.* Aug. 1921 to Sept. 1922 Engr. Mgr., Allen Supply & Constr. Co., La Grange, Ga., full management of contracting business of constructing buildings and highway bridges; designed and erected store buildings. *TT 1: P 1: RC 1.* Sept. 1922 to Jan. 1923 Foreman, John P. Pettyjohn & Co., Lynchburg, Va., in charge of placing reinforcing steel for large reinforced concrete mill building. *TT 0.4: P 0.4.* Jan. 1923 to date Res. Engr., J. E. Sirrine & Co., Greenville, S. C.; Engr. in responsible charge of construction of industrial buildings and plants. *TT 1.7: P 1.7: RC 1.7.* *TT 7.9: SP 3.3: P 4.6: RC 3.2.* Refers to G. M. Braune, H. L. Hagerman, E. Mauldin, J. E. Sirrine, J. T. Wardlaw.

**912 (1) GEILE, WILFRED GEORGE**, 7 Pomander Walk, New York City. (Age 29. Born Seymour, Ind.) 1921 Ph. B., Sheffield Sci. School. July 1921 to July 1922 Asst. Field Supt. in charge of manufacture, transportation and laying of reinforced concrete pipe, Lock Joint Pipe Co., Ampere, N. J. *TT 3: SP 2.2: P 0.8: RC 0.5.* July 1922 to July 1923 with George Herbert Gray, Archt., New Haven, Conn., as Engr. in charge of real-estate surveys and subdivision, design and construction of sewers and roads, building supervision and design; from Sept. 1922 to July 1923 also instructor in Eng. Mechanics and Strength of Materials, Sheffield Scientific School, Yale Univ. *TT 1: P 1: RC 0.5.* July 1923 to Sept. 1924 with Insley Mfg. Co., Indianapolis, Ind., on structural design, estimating; Supt. in charge of building construction. *TT 1.3: P 1.3: RC 0.5: D 0.3.* *TT 5.3: SP 2.2: P 3.1: RC 1.5: D 0.3.* Refers to S. E. Barney, C. T. Bishop, P. G. Laurson, C. J. Tilden, J. C. Tracy.

**913 (1) GHENT, PIERRE MOWELL**, Huguenot Park Hotel, Huguenot Park, N. Y. (Age 21. Born Baltimore, Md.) 1923 B. E., Johns Hopkins Univ. June to Aug. 1920 Chairman, Pennsylvania R. R. Aug. to Oct. 1920 Chairman, and June to Oct. 1922 Student Engr., Baltimore & Ohio R. R. *TT 2: SP 2.* June 1923 to-date Rodman, B. & O. R. R. Co., from March to Aug. 1924 being Concrete and Gen. Inspector, office work on grain elevator, Pier 3, and track, Locust Point, Md., and since then on preliminary work for plans for elimination of grade crossings and electrification of Staten Island Rapid Transit. *TT 1.3: SP 1.3.* *TT 3.3: SP 3.3.* Refers to E. G. Carey, G. S. Crites, E. J. Dougherty, J. H. Gregory, H. A. Lane, R. Mather.

**914 (1) GOVIN, GUSTAVO LAWRENCE**, Higüey, Dominican Republic. (Age 29. Born New York City.) 1920 C. E. Pol. Inst. of Brooklyn. June to Oct. 1916 Instrumentman, Cuba Commercial, Havana, Cuba, surveying and mapping. *TT 2: SP 2.* June 1917 to April 1918 Examiner of Patents and Inventions, U. S. Naval Consulting Board. *TT 0.8: SP 0.4: P 0.4.* April 1918 to April 1919 Ensign, U. S. Naval Reserve Force. April to Nov. 1919 Civ. Engr., Inter-ocean Oil Co., New York City, harbor surveys, Azua, Dominican Republic, in charge. *TT 0.6: P 0.6: RC 0.6.* June 1920 to Feb. 1921 Asst. Engr., Dept. of Public Works, Dominican Republic, highway construction. *TT 0.7: P 0.7: RC 0.7.* Feb. to Dec. 1921 Res. Engr., West India Finance Corporation, Barahona Co., Dominican Republic, railroad and irrigation, in charge of three irrigation sections. *TT 0.8: P 0.8: RC 0.8.* March 1922 to Aug. 1923 Civ. Engr., Fairchild Aerial Surveys Co., Ltd., Grand Mere, Que., Canada, aerial photography, surveys and mapping. *TT 1.4: P 1.4: RC 1.4.* Aug. 1923 to June 1924 Chf. of Party, Hudson River Connecting R. R., Selkirk, N. Y. *TT 0.8: P 0.8: RC 0.8.* June 1924 to date Res. Engr., Dept. of Public Works, Dominican Republic, in charge of section, highway construction. *TT 0.3: P 0.3: RC 0.3.* *TT 7.5: SP 1.4: P 5.1: RC 4.6.* Refers to J. M. Adams, J. H. Caton, 3d, F. V. Fields, C. W. Hudson, G. S. Rinehart, W. D. Volk, L. H. Walker.

**915 (3) GRAHAM, LELAND LITTLE**, 132 Blackstone Ave., Jamestown, N. Y. (Age 49. Born Wexford, Pa.) 1909 C. E., Cornell Univ. Land Surveyor and Prof. Engr., New York State. Nov. 1901 to Feb. 1903 Rodman, Pittsburgh Constr. Co. (6 months) and Pitts-

burgh & Charleroi St. Ry. Co. (9 months). *TT 3.2: SP 3.2.* Feb. to Dec. 1903 Levelman, Wheeling Short Line R. R. (6 months) and Monongahela & Washington Elec. Ry. (4 months). *TT 0.8: SP 0.8.* Dec. 1903 to Sept. 1904 Transitman, A. W. Mellon Co. (2 months), Northern Coal & Coke Co. (5 months), and Wabash Terminal R. R. Co. (3 months). *TT 0.8: SP 0.8.* June 1905 to Sept. 1906 Transitman, American Sheet & Tin Plate Co. (3 months), James Stewart & Co. (5 months) and Wheeling Short Line Ry. (7 months). *TT 1.2: SP 1.2.* June to Sept. 1907 Transitman, Eastman Kodak Co. June to Sept. 1908 and June 1909 to Feb. 1910 Levelman, New York State Highway Dept. *TT 0.6: SP 0.6.* Feb. 1910 to Jan. 1911 Engr. in charge of surveys, Garden City, Gulf & Northern R. R. Co. *TT 0.9: P 0.9: RC 0.9.* Jan. to June 1911 Designer with Morris Knowles, Cons. Engr. *TT 0.5: P 0.5: D 0.5.* June 1911 to June 1912 Engr. in Chg., Laurentide Paper Co. *TT 1: P 1: RC 1.* June to Dec. 1912 Inspector, Empire Dredging Corporation. *TT 0.4: SP 0.4.* Feb. to Sept. 1913 with Chester & Fleming, in office on design of reservoir, Steubenville, Ohio (2 months); and Res. Engr. at Jamestown, N. Y., on construction of 5 000 000-gal. reservoir (both reinforced concrete); during war Asst. Superv. Engr. at Camp Knox, near Louisville, Ky. (under Chester & Fleming, Superv. Engrs.); had supervision of erection of dam, pump station and filter plant, with preliminary reconnaissance work of securing supply. *TT 0.7: P 0.7: RC 0.5: D 0.2.* Sept. 1913 to date member of firm, and Chf. Engr., Chapman & Graham, Inc., in responsible charge of all engineering work, covering such as lot and farm surveys; designed and superintended erection of septic tank for Children's Home at Randolph, N. Y.; designed and supervised erection of small pumping plant and reservoir for Atlas, Marvel and Level Furniture Companies, Jamestown, inverted siphon sewer under Chadakoin River for City of Jamestown, also pump station and supply line, and sinking of artesian wells for Lakewood, N. Y.; designed three factories (1 and 2 stories), paint storage building (3 stories), two varnish plants (1 and 2 stories) for Jamestown Wood Finishing Co., warehouse (2 stories) for Chautauqua Bldrs. Supply Co., and two die vaults (1 and 2 stories) for Dahlstrom Metallic Door Co. (all reinforced concrete) at Jamestown; design and erection of oven for baking enamel for Blackstone Mfg. Co., Jamestown; designs of retaining wall at Buffalo St. Pumping Station for Water Dept., Jamestown, and of boathouse (20 ft. high) for W. J. Lausterer on Chautauqua Lake; survey and plans for enlargement of water supply at Randolph, N. Y.; survey for Water Dept. of Jamestown, location of 19 wells, pump station location and elevations of lines connecting wells and receiving well; had charge of erection of septic tank for Spiritualist Association of Lillydale, N. Y.; has been Engr. Witness in cases on account of improper construction of a culvert, and of a hotel, proving claim on highway contract, and others; during past 3 years firm has completed \$500 000 worth of general construction annually; has done all estimating and incidental engineering work during construction. *TT 11: P 11: RC 11. TT 21.8: SP 7.7: P 14.1: RC 13.4: D 0.7.* Refers to F. A. Barnes, J. N. Chester, T. Fleming, Jr., A. W. Harrington, M. Knowles, O. L. Schlumpf, W. F. Shaw.

916 (10) GRIFFIN, CARROLL, 608 Bona Allen Bldg., Atlanta, Ga. (Age 30. Born Atlanta, Ga.) 2 years student in Textile Eng., Georgia School of Technology. 1914 to 1924 Vice-Pres., Griffin Constr. Co., directly in charge of construction work. *TT 11: SP 0.7: P 10.3: RC 10.3.* Refers to W. A. Aichel, C. E. Kauffmann, V. H. Kriegshaber, W. G. Miller, P. H. Norcross, R. M. Pardee, L. W. Robert, Jr., C. C. Whitaker, C. M. Wood.

917 (6) QWATHMEY, WILLIAM WATTS, Jr., 901 Goff Bldg., Clarksburg, W. Va. (Age 35. Born Norfolk, Va.) 3 years student, Washington and Lee Univ. June 1911 to date (except May 1917 to Jan. 1919 Lieut., Co. B, 309th U. S. Engrs., 84th Div.) with Baltimore & Ohio R. R. as follows: June 1911 to May 1913 Rodman, Levelman and Transitman; May 1913 to May 1917 Field Engr., topographical surveys (1913); Res. Engr., Long Fork R. R. construction; Jan. to July 1919 Field Engr., Miami River Bridge; July 1919 to Jan. 1920 renewal of Fairmont Park Tunnel, Philadelphia, Pa.; Jan. 1920 to Sept. 1922 Field Engr., Lincoln Highway Undergrade Crossing, Lumbrook, Del., Atlantic & Pacific Warehouse, Philadelphia, and Overhead Bridge No. 85, Collingdale, Pa.; Sept. 1922 to Jan. 1924 Asst. Engr. at Martinsburg, W. Va., on Queen St. Undergrade Crossing, and Bridge No. 48, also bridges at North Branch and Oakland, Md., and Mt. Crawford, Cave Station and Verona, Va., and others; third retort, timber-treating plant, Green Springs, W. Va., 1 200-ton coaling station for Washington (D. C.) Terminal R. R., work and inspection pits, Keyser, W. Va.; since Jan. 1924 Asst. Engr. at Clarksburg, W. Va., on Bridges Nos. 17A and 20A, Jane Lew, W. Va., No. 36, Cairo, W. Va., and No. 1097 Lee Creek, W. Va.; Virginia Ave. Subway, Cumberland, Md. *TT 14.1: SP 2.8: P 11.3: RC 10.1: D 1.2.* Refers to E. G. Carey, E. J. Dougherty, H. A. Lane, P. G. Lang, Jr., R. Mather, T. J. Wright, Jr.

918 (10) HALE, HAL HENDERSON, 1319 Highland Ave., Knoxville, Tenn. (Age 23. Born Morristown, Tenn.) 1924 B. S. in C. E., Univ. of Tenn. June and July 1921 and June 1923 in training at Engr. Officers' Reserve Camp, Camp Humphreys, Va., and Ft. Bragg, N. C. Dec. 1922 to Jan. 1923 Instrumentman and Topographer on water power survey with E. A. Seborn, Knoxville, Tenn. TT 2.2: SP 2.2. June 1924 to date Draftsman and Inspector, Dept. of Public Service, Knoxville; since Sept. 1924 in Water Dept., as Chief of Party in charge of location and extension. TT 0.3: SP 0.3. TT 2.5: SP 2.5. Refers to F. W. Albert, A. Bonnyman, W. W. Carson, N. W. Dougherty, M. Nicholson.

919 (2) HARRIS, HARVEY CLIFTON, West Danville, Vt. (Age 35. Born Whiting, Kans.) Sept. 1922 to June 1924 studied construction and structural design of timber, steel and concrete framing at Wentworth Inst., Boston, Mass., and graduated. April 1912 to March 1917 Foreman, concrete construction, Hopper & Sons, Contrs., Manhattan, Kans. (2½ years), and Stamey Mackey Constr. Co., Hutchinson, Kans. (2½ years). TT 5.7: SP 1.7: P 4: RC 4. June 1917 to Aug. 1919 with 2d Engrs., 2d Div., U. S. Army; from Oct. 1917 to Aug. 1919 overseas. Sept. 1919 to Sept. 1920 with Kansas City (Kans.) Structural Steel Co., working from template and marking directly from blueprints. TT 1: SP 1. June to Nov. 1921 Foreman, concrete construction; with P. C. Rich, Contr., Rutland, Vt. TT 0.5: P 0.5: RC 0.5. July 1924 to date Foreman, concrete construction, with Earle & Merry, Contrs., Rutland. TT 0.2: SP 0.2. TT 7.4: SP 2.9: P 4.5: RC 4.5. Refers to C. W. Banks, T. W. Dix, E. D. Kingman, E. A. Varney, W. C. Voss.

920 (1) HOLMES, HAROLD RISTINE, 87 Murray Lane, Flushing, N. Y. (Age 39. Born Tabriz, Persia.) 1908 C. E., Princeton Univ. 1908 to 1910 Rodman, New York State Engr.'s Dept., running instrument, drafting, computing, occasional charge of party; also inspecting highway construction. TT 4: SP 4. 1910 to 1911 Asst. Engr., New York State Highway Dept., in responsible charge of highway construction in Westchester County, also drafting and designing roads. TT 1.2: SP 0.2: P 1: RC 1. 1911 to 1916 with Public Service Comm., 1st Dist., New York City, 2½ years as Jun. Engr., drafting (about 6 months), in charge of field party, Lexington Ave. Subway (1½ years) on construction, grades, lines, estimates; then (3 years) Asst. Engr. in responsible charge of construction of Route 50, subway and elevated line, Long Island City (cost about \$600 000). TT 5.2: SP 2.2: P 3: RC 3. 1916 to 1917 Estimator, Neaalon Bros. Co., Inc., Rochester, N. Y., on building construction, industrial buildings, schools, etc. TT 0.4: P 0.4. 1917 to 1918 Draftsman, Shepard Elec. Crane & Hoist Co., Montour Falls, N. Y., detailing cranes. TT 0.7: SP 0.7. 1918 to 1919 Member of American Persian Relief Comm. under auspices of Near East Relief, New York City. 1919 to 1920 Asst. Engr., New York State Highway Dept., in responsible charge of highway construction at Buffalo and vicinity, supervising construction. TT 0.7: P 0.7: RC 0.7. 1920 to 1921 Appraiser of buildings, American Radiator Co., Buffalo. TT 0.7: P 0.7. 1921 to 1922 City Engr., Lockport, N. Y., design and construction of street pavements, sewers, water lines and city surveys, reports; in full charge and responsible for all new work (construction about \$300 000). TT 2: P 2: RC 2: D 2. 1922 to 1923 Asst. Engr., Long Island R. R. Co., in charge of drafting room. TT 1.5: P 1.5. TT 16.6: SP 7.2: P 9.4: RC 6.7: D 2. Refers to E. Anderberg, T. W. Barrally, J. E. Breen, R. H. Jacobs, J. H. Madden, J. H. Myers.

921 (6) HULSCHER, HAROLD THOMAS, 210 N. Drake St., Titusville, Pa. (Age 27. Born Battle Creek, Mich.) 1924 B. S. in E., Univ. of Mich. July 1924 to date Asst. Engr., highway construction, with Connell, Laub & Bracht, Gen. Contrs., Dayton, Ohio, cost and instrument work, grading, paving. TT 2.1: SP 2.1. Refers to A. H. Blanchard, J. H. Cissel, L. M. Gram, W. C. Hoad, H. B. Merrick, H. E. Riggs, J. S. Worley.

922 (2) LAWS, JOSEPH PENROSE, P. O. Box 122, Devon, Conn. (Age 30. Born Philadelphia, Pa.) 1922 B. S., Pa. State Coll. Sept. 1913 to Sept. 1914 Chairman and Rodman for City Engr., Ventnor, N. J. TT 3: SP 3. June to Sept. of years 1915 and 1916 Rodman and Nov. 1919 to Sept. 1920 Rodman, Draftsman and Bridge Inspector on road surveys and construction with County Engr., Atlantic County. TT 0.8: SP 0.4: P 0.4. July 1922 to date Instrumentman, Draftsman and Erecting Engr., J. A. P. Crisfield Contr. Co., on layout of camp, construction of tracks and buildings; foundations of power plant; checking steel; keeping quantities and unit costs; directing installation of third unit at Devon Power Plant; at present erecting additional stack support steel. TT 2.3: P 2.3: RC 1.3. TT 6.1: SP 3.4: P 2.7: RC 1.3. Refers to H. J. Hoard, F. E. Lamphere, A. H. Nelson, W. I. Risley, E. D. Walker.



**923 (1) LOCKIE, ANDREW HAMILTON**, 32 Hospital Hill, Napier, New Zealand. (Age 33. Born Maraekakaho, New Zealand.) Jan. 1908-July 1913 with Jas. J. Niven & Co., Ltd., Napier, New Zealand, 5 years as Apprentice, in shops as Fitter, Turner and Erector on construction of steam and gas engines and refrigerating machinery, also varied repair work (2½ years), and Jun. Draftsman on works drawings and details (2½ years); last 6 months Erecting Engr., installing suction gas power plant and refrigerating machinery in breweries at Auckland, New Zealand (nearly 3 months) and Draftsman at head office on works drawings and machinery installations (over 3 months). TT 5.5: SP 5: P 0.5. March to June 1914 Fourth Engr. on S. S. *Clan Macdonald* for Cayzer Irvine, Ltd., Glasgow. TT 0.3: P 0.3. July 1914 to Jan. 1915 Draftsman, P. & W. MacLellan, Ltd., Clutha Works, Glasgow, on working drawings and progressing of work through shops in structural steelwork and railway rolling stock. TT 0.5: P 0.5. Jan. 1915 to Sept. 1920 in military service, New Zealand Machine Gun Corps. Sept. 1920 to Jan. 1921 Asst. Engr. and Draftsman, H. W. Clime & Son, Cons. Engrs., Hastings, New Zealand, setting out work and making contract drawings for Maraetotara hydro-electric scheme, comprising gravity type dam, reinforced concrete conduit and power house. TT 0.4: P 0.4. May 1921 to date Asst. Engr., Napier Harbor Board, on land and marine survey, construction of embanked road and railway, diversion of river by dredging, construction and design of wharves in concrete and timber, repairs and reconstruction of harbor plant, including dredges, cranes and locomotives. TT 3.3: P 3.3: RC 3.3. TT 10: SP 5: P 5: RC 3.3. Refers to F. Finch. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**924 (5) MCCARTHY, JULIAN POINDEXTER**, 2601 Montrose Ave., Richmond, Va. (Age 34. Born Richmond, Va.) March to April 1911 Rodman and Chalmers, Interurban Elec. Ry. 1911 to 1912 with P. P. Pilcher, Civ. Engr. and Archt., Richmond, Va., as Transitman, Levelman, drafting and occasionally in charge of party, surveys for subdivision work. TT 1.1: RC 1. 1912 with W. W. LaPrade & Bros., Engrs. and Surveyors, as Transitman and Levelman, drafting, surveys, bridge inspection, subdivision and other engineering work. TT 0.6. 1912 to 1914 with Marye & Saville, Contrs. and Engrs., as Engr. in charge of surveys and subdivision, supervision of construction, some design of grades for curb and gutter work, etc., and topographic maps. TT 1.5: RC 1.5. 1914 to date in City Engr.'s Office (now Dept. of Public Works), Richmond, 2 years as Rodman with some responsible work; 2 years Asst. to J. N. Eubank, who had charge of construction and maintenance of city streets; 4 years an Asst. to City Engr., in charge of street lines and grades, designing of some street, alley and park road and cemetery grades, street reconstruction, park and cemetery construction, James River Improvement, dredging channel and building lock gate, etc.; 1922 to Sept. 1924 in Bureau of Surveys, Dept. of Public Works, as Chf. of Party in charge of street lines and grades, staking out construction, and some designing of street, park and cemetery road lines and grades, etc.; since Sept. 1924 Asst. to Chf. Engr. of Bureau of Streets, being Asst. Engr. in charge of maintenance of all streets in City. TT 10: RC 8: D 4. TT 13.1: RC 10.5: D 4. Refers to W. B. Bates, G. M. Bowers, J. N. R. Eubank, A. M. Harris, E. M. Hastings, W. F. Woodson.

**925 (12) MCGANDY, EDWARD LEWANE**, Y. M. C. A. Bldg., Butte, Mont. (Age 30. Born Marshall, Minn.) 1924 B. S. in Civ. Eng., Univ. of Mont. May 1914 to May 1916 Rodman and Instrumentman, Chicago, Milwaukee & St. Paul Ry. Co. TT 4. May 1916 to Jan. 1917 Inspector, Toltz, King & Day Co., Inc., St. Paul, Minn., on construction of reinforced concrete grain elevator and timber flour mill. TT 0.6. Feb. to Nov. 1917 Inspector, Farley Leotscher Co., Dubuque, Iowa, on construction of 8-story reinforced concrete warehouse. TT 0.7. Nov. 1917 to June 1919 Sergeant, Transitman and Draftsman, Ry. Transportation Corps, U. S. Army, 1½ years foreign service. TT 1.6. July to Dec. 1919 Foreman, Hoag Constr. Co., Minneapolis, Minn. TT 0.4. Jan. to May 1920 Asst. Bridge Engr. on survey and construction of highway bridges, St. Louis County, Minn. TT 0.4. June to Aug. 1920 Inspector and Asst. Engr. on construction of one-course reinforced concrete pavement for City of International Falls, Minn. TT 0.2. June to Oct. 1921 Instrumentman, Montana Highway Comm. July to Sept. 1922 Instrumentman with Montana State Highway Engr. June to Sept. 1923 Asst. Engr. for State of Montana, under Superv. Archt., on engineering construction work on College Campus. July 1924 to date Jun. Asst. Engr., C. M. & St. P. Ry. Co., on maintenance work between Harlowetown and Avery (electrified track). TT 0.3. TT 8.2. Refers to W. N. Carey, L. D. Conkling, H. W. Holmes, W. E. King, W. R. Plew, F. M. Sloane.

**926 (7) MARKS, EDWARD**, 906 S. Pleasant St., Kenosha, Wis. (Age 22. Born New York City.) 1923 B. S. in Civ. Eng., Univ. of Wis. June to Oct. of years 1919-1922 Architectural Draftsman, White & Co., Archts., Kenosha, Wis. TT 2. June 1923 to date Eng.

Draftsman, Milwaukee (Wis.) Sewerage Comm., on reinforced concrete, structural steel, architectural detailing and design. TT 1.3. TT 3.3. Refers to T. C. Hatton, A. L. Kurtz, H. E. Nicol, E. L. Pfanz, D. W. Townsend.

927 (10) MARKWELL, KENNETH WILLIAM, 693 North Evergreen St., Memphis, Tenn. (Age 25. Born Oklahoma City, Okla.) Licensed Engr., Tennessee. 1920 B. S. in C. E., Okla. Univ. Aug. to Sept. 1917 Progress Checker, James Stewart Constr. Co., on construction work at Camp Pike, Ark. June to Aug. 1918 Jun. Draftsman with Cass Gilbert, Archt., New York City. Then with U. S. Marine Flying Corps (Officers' Training Corps). June to Sept. 1919 Draftsman for Dickinson & Watkins, Cons. Engrs., Little Rock, Ark. TT 2: SP 2. July 1920 to date Draftsman (1 year) and Chf. Draftsman (over 3 years), City Eng. Dept., Memphis, Tenn., in charge of design of all drainage, sewers, grade separations, street paving and widening projects, maps, etc.; also in collaborate charge (with Asst. City Engr.) of specifications and estimates. TT 4.1: SP 1: P 3.1: RC 3.1: D 3.1. TT 6.1: SP 3: P 3.1: RC 3.1: D 3.1. Refers to J. P. Carey, W. D. Dickinson, A. S. Fry, H. N. Howe, W. G. Stromquist.

928 (7) MARSON, HOMER ROBERTS, 2500 Hurlbut Ave., Detroit, Mich. (Age 31. Born Marcy, N. Y.) 1919 B. S. in M. E., Univ. of Mich. June to Aug. 1919 on maintenance and inspection work in steam-electric power plant, Packard Motor Car Co., Detroit, Mich. TT 2.2. Aug. to Oct. 1919 Draftsman with Smith, Hinchman & Grylls, Engrs. and Archts., Detroit. TT 0.2 D 0.1. Oct. 1919 to Feb. 1920 Draftsman and Field Engr., Ford Motor Co., River Rouge Blast Furnace Plant, Detroit, on design of steel and concrete for construction of blast furnaces, field sketching and grade work. TT 0.3: D 0.2. March to July 1920 Mfr.'s Agt., for D. J. Crowley, sales and maintenance work on industrial furnaces and steel, Detroit. TT 0.4. July 1920 to Jan. 1921 Plant Engr. Asst., Michigan State Telephone Co., Detroit, plant layout and design, on underground and aerial cables. TT 0.4: D 0.4. Jan. 1921 to date with Dept. of Water Supply, Detroit, until Oct. 1922 as Jun. Asst. Engr., design of water-works, map drawing, pipe-line layouts and field construction engineering and inspection; since then Asst. Engr. in charge of design and construction of large water mains and other water-works structures; preparing plans for co-operating with other city departments and principal engineer on distribution layout; acting as Asst. Supt. in his absence. TT 3.7: RC 2: D 1.7. TT 7.3: RC 2: D 2.5. Refers to L. E. Ayres, G. H. Fenkell, W. M. Mitchell, F. P. Slisson, F. H. Stephenson, R. S. Swinton, E. M. Walker.

929 (10) MASSEY, THOMAS HOLLAND, Care, State Highway Dept., Dublin, Ga. (Age 27. Born Commerce, Ga.) June 1907 to Sept. 1916 (vacations and holidays) Rodman and Chainman for his father, M. T. Massey, chiefly on land and drainage surveys, April-July 1917 Rodman and Chainman, Atlanta-Anderson Constr. Co. (1 month) and Atlanta, Birmingham & Atlantic R. R. (3 months). TT 0.3: SP 0.3. Aug. 1917 to Feb. 1918 with U. S. Geological Survey, 1 month as Rodman, then Field Asst., ran levels and traverse lines and made topographical maps. TT 0.5: SP 0.5. Feb. to July 1918 private work, land and drainage surveys, maps of mill villages, surveys and designing private water-works, and surveying and building driveways for estates and parks. TT 0.5: SP 0.5. July 1918 to Oct. 1919 (except Nov. to Dec. 1918 private, U. S. Army) with Johnson & Morgan, Project Engrs., State Highway Dept. of Georgia, as Asst. Engr. locating, making plans and constructing highways and bridges. TT 1.1: P 1.1: RC 1.1. Oct. 1919 to Feb. 1920 Asst. Engr. with T. P. Wright, locating, making plans and constructing bridges and highways. TT 0.3: P 0.3: RC 0.3: D 0.1. Feb. 1920 to May 1921 Asst. Engr., State Highway Dept. of Georgia, on similar work. TT 1.3: P 1.3: RC 1.3: D 0.6. June 1921 to Feb. 1922 private work, making surveys, plans and supervising street paving and sewerage project. TT 0.7: P 0.7: RC 0.7: D 0.7. Feb. 1922 to April 1924 Res. Engr., State Highway Dept. of Georgia, on construction of roads and bridges, setting grade stakes, classing material and supervising construction. TT 2.2: P 2.2: RC 2.2: D 0.5. April to Aug. 1924 in private practice as Contr. in concrete work. TT 0.4: P 0.4: RC 0.4: D 0.4. Aug. 1924 to date Reconstruction Engr., State Highway Dept. of Georgia, locating, working up plans and constructing highways. TT 0.1: P 0.1: RC 0.1: D 0.1. TT 7.3: SP 1.3: P 6: RC 6: D 2.6. Refers to W. D. Hull, J. H. Johnston, W. R. Neel, A. Pew, H. G. Smith.

930 (11) MEANS, BOYD IRWIN, 156 West 76th St., Los Angeles, Cal. (Age 37. Born Arkansas City, Kans.) 1915 B. S. in C. E., Univ. of Kans. Jan. to Sept. 1910 Chainman and Rodman, Northwestern Land & Iron Co., Denver, Colo. June to Sept. 1914 Instrumentman and Draftsman for City and County Engr., Beloit, Kans. Feb. 1915 Chainman and Rodman, with Hedrick & Cochrane, Cons. Engrs., Kansas City, Mo. April to May

1915 Instrumentman and Draftsman, City of Marysville, Kans. TT 2.7: SP 2.7. May 1915 to Jan. 1920 Draftsman and Res. Engr. on construction with Black & Veatch, Cons. Engrs., Kansas City, Mo., drafting and designing (under supervision) pavements, sanitary sewers, sewage-disposal and water-purification plants, and storm drains; Res. Engr. on construction of water-purification plant, two sewage-disposal plants, sanitary and storm sewers, two reinforced concrete reservoirs and pavements; Res. Engr. on construction surveys, measurement of finished work, inspection of work and materials not tested in laboratory and making up contractor's monthly and final estimates, also preliminary surveys for pavements, sanitary sewer systems, storm drains and water-storage reservoirs; from March to July 1916 Res. Engr. on water-works construction, Henriel, Kent & Lowry Eng. Co., Kansas City, Mo., surveys, inspection of work and materials and making up contractor's monthly and final estimates; from Dec. 1917 to March 1918 Draftsman and Transitman, United Verde Copper Co., Clarkdale, Ariz., preliminary and construction surveys for sewer work, design of Imhoff tank and sand filters; design of two reinforced concrete bridges to carry waste and sewer pipes. TT 4.6: SP 0.5: P 4.1: RC 3.4: D 0.7. Jan. to June 1920 Progress Engr. and San. Sewer Designing Engr., Goodyear Tire & Rubber Co. of California, daily progress reports on factory construction were made out for Cost Engr.'s office; in charge of design of sanitary sewer system for 160 acres. TT 0.4: P 0.4: D 0.1. June to Nov. 1920 Res. Engr. on water-works construction, with A. L. Sonderegger, Cons. Engr., Los Angeles, construction surveys and inspection of work and materials and making up contractor's monthly and final estimates. TT 0.4: P 0.4: RC 0.4. Nov. 1920 to Feb. 1921 Inspector, County Highway Dept., Los Angeles County, Cal., drafting, inspecting and surveying on highway improvements. TT 0.2: SP 0.1: P 0.1: RC 0.1: D 0.1. Feb. 1921 to Aug. 1922 Jun. Civ. Engr., City Engr.'s Office, Los Angeles, drafting, designing and checking sanitary sewer plans. TT 1.6: SP 0.5: P 1.1: D 1.1. Aug. 1922 to July 1923 Bldg. Inspector, Board of Education, Los Angeles City School Dist., on construction of several school buildings. TT 0.9: P 0.9: RC 0.9. Aug. 1923 to Sept. 1924 Draftsman and Designing Engr. with Howard McCurdy, Civ. Engr., Los Angeles, designing and drafting on sanitary sewer and pavement plans; designing and drafting on plans for activated sludge plant for City of Huntington Park, Cal. (in collaboration with J. S. Colton under direction of Mr. McCurdy); supervision of water-works construction. TT 1.2: P 1.2: RC 0.2: D 1. TT 12.1: SP 3.9: P 3.2: RC 5: D 3. Refers to E. B. Black, W. T. Knowlton, A. P. Learned, A. L. Sonderegger, H. A. Thaliner, N. T. Veatch, Jr.

931 (7) MILLS, ROBERT ROURKE, 633 North Sixth St., Manitowoc, Wis. (Age 32. Born Washington, D. C.) 1923 B.Sc., Univ. of Ill. Sept. 1917 to Jan. 1919 Aviator, U. S. Army. TT 3.3: SP 3.3. Feb. 1919 to Nov. 1921 Observer, Dept. of Terrestrial Magnetism, Carnegie Inst. of Washington, D. C. TT 2.7: P 2.7: RC 1. June to Sept. 1922 Detailer and floor plans, Harris Structural Steel Co., New York City. TT 0.2: P 0.2. June 1923 to July 1924 Engr., Eng. Dept., Manitowoc (Wis.) Portland Cement Co. TT 1.2: P 1.2: RC 1.2: D 1.2. July 1924 to date Engr., Cement Mill Dept., Manitowoc Shipbuilding Corporation, in charge of the Dept. TT 0.2: P 0.2: RC 0.2: D 0.2. TT 7.5: SP 3.3: P 4.2: RC 2.6: D 1.3. Refers to I. O. Baker, H. Cross, M. L. Enger, G. W. Pickels, A. N. Talbot, C. C. Williams.

932 (1) NOBLE, JOHN HENRY NEIDLINGER, 158 Rutledge Ave., East Orange, N. J. (Age 22. Born New York City.) 1923 B. S., Rutgers Coll. July 1923 to June 1924 Jun. Engr., New Jersey State Highway Dept.; Instrumentman in charge of level, cross-section, minor survey parties; reducing notes and plotting. TT 2.9: SP 2: P 0.9. June 1924 to date Draftsman, Bridge Dept., C. R. R. of N. J., drafting and checking. TT 0.3: P 0.3. TT 3.2: SP 2: P 1.2. Refers to L. E. Andrews, R. H. Robson, E. H. Rockwell, S. A. Stephenson, Jr., J. J. Yates.

933 (14) OLSEN, VIGGO CARL, 3804 Sherman Ave., Omaha, Nebr. (Age 25. Born Harlan, Iowa.) 1924 B. S., Iowa State Coll. TT 2: SP 2. Refers to T. R. Agg, W. L. Foster, A. H. Fuller, A. Marston, C. S. Nichols, R. C. Yant.

934 (8) PERKINSON, PERRY MELVIN, Box No. 63, Nokomis, Ill. (Age 29. Born Milton, Ky.) 1921 B. S. C. E., and 1924 C. E., Univ. of Ky. Aug. to Oct. 1918 and June to Oct. 1919 Inspector, Kentucky Highway Dept., on drainage and resurfacing of waterbound macadam road, construction, grading, etc. TT 2: SP 2. June to Oct. 1920 testing road materials, and Inspector on construction of waterbound macadam road, and June 1921 to July 1922 Res. Engr. on construction, including drainage, grading, and surfacing of surface-treated waterbound macadam road, all for Kentucky Highway Dept. TT 1.1: P 1.1. July 1922 to date (except Nov. 1923 to April 1924 graduate work at Univ. of Kentucky) Jun.

Highway Engr., Illinois Div. of Highways, Res. Engr. on construction, including drainage, grading, paving, etc.; part of time Chf. of Locating Party, office work on highway plans. TT 2.3: P 2.3: RC 1.5: D 0.3. TT 5.4: SP 2: P 3.4: RC 1.5: D 0.3. Refers to W. J. Carrel, J. F. Grimes, J. T. Madison, W. E. Rowe, D. V. Terrell.

935 (15) PETTY, OLIVE SCOTT, 1005 Southwestern Life Bldg., Dallas, Tex. (Age 29. Born Olive, Tex.) 1917 B. S. in C. E., and 1920 C. E., Univ. of Tex. May to Aug. 1917 at First Officers' Training Camp. Aug. 1917 to Jun. 1918 Second Lieut., and June 1918 to Jan. 1919 First Lieut., Engr. Corps, U. S. Army, part of time overseas. TT 3.6: SP 2.2: P 1.4: RC 1.4. March to Aug. 1919 Drilling Supt. and Gen. Mgr. of oil operations in Texas for L. E. Hanchett of California. TT 0.5: P 0.5: RC 0.5. Sept. 1919 to June 1920 engineering-graduate work, and Sept. 1920 to Sept. 1923 Adjunct Prof. of Civ. Eng., Univ. of Texas. TT 3.8: P 3.8: RC 3. Oct. 1923 to date Structural Designer for R. O. Jameson, Cons. Engr., Dallas, Tex., on reinforced concrete and structural steelwork. TT 1: P 1: RC 1: D 1. TT 8.9: SP 2.2: P 6.7: RC 5.9: D 1. Refers to E. C. H. Bantel, F. E. Glesecke, R. O. Jameson, A. S. McMaster, T. U. Taylor, R. G. Tyler.

936 (7) POPE, LATHROP CARLETON, 609 West Madison St., Ann Arbor, Mich. (Age 32. Born Buffalo, N. Y.) 1913 C. E., Rens. Pol. Inst. June 1913 to April 1915 Rodman, New York State Engr.'s Dept., field work, inspecting and estimating on Barge Canal contracts. TT 3.8. April 1915 to May 1917 Jun. Engr., New York State Public Service Comm., 1st Dist., field work, inspecting, estimating and directing work on subway construction in New York City; 3 months directed underpinning of buildings and elevated railroad columns. TT 2.1: RC 0.2. May to Nov. 1917 Asst. Res. Civ. Engr., The Foundation Co., New York City, on contract with U. S. Shipping Board for construction of shipyard and wooden freighters at Kearny, N. J., overseeing construction and design. TT 0.5: RC 0.5: D 0.2. Nov. 1917 to May 1919 Sergeant, Co. D, 25th U. S. Army Engrs., in France in S. O. S. and in Argonne Sector; 3 months in charge of field work on construction of 3200-ft. dock in Loire River near St. Nazaire. TT 1.5: RC 0.2. Oct. 1919 to Sept. 1920 with Degnon Contr. Co., New York, on contract with New York City Board of Water Supply for construction of 19-mile Shandaken Tunnel in Catskill Mts.; field work and studies and design of plant. TT 1: D 0.3. Oct. 1920 to date Instructor in Civ. Eng., Univ. of Michigan, responsible charge of classes in Theory of Structures, Masonry (reinforced concrete) and Design of Structures, etc. Vacations and odd times Structural Designer for Holland, Ackerman & Holland, Ann Arbor, Mich., principally steel and reinforced concrete design for hydro-electric plants. Structural Designer and Asst. to J. H. Cissel, Structural Engr., Ann Arbor, designs for steel and reinforced concrete highway bridges, high building foundations and addition to Univ. of Michigan stadium; proposed preliminary design for 1650-ft. span (Fiddler type) 3-hinged arch bridge at Sydney, Australia. TT 4: RC 3.4: D 1.2. TT 12.8: RC 4.3: D 1.7. Refers to A. H. Blanchard, J. H. Cissel, L. M. Gram, J. H. C. Gregg, H. K. Holland, R. K. Holland, H. E. Riggs.

937 (1) SCANLAN, FRANCIS XAVIER, 861 Crotona Park North, Bronx, New York City. (Age 30. Born New York City.) 1915 B. S. in C. E., Manhattan Coll. June to Sept. 1912 Asst. Inspector of dams, New York State Conservation Comm. June to Sept. 1914 Rodman, The Foundation Co., Asst. to Field Engr., on estimates, etc. TT 2: SP 2. Aug. 1915 to April 1916 Chairman, New York Central R. R., Elec. Zone. TT 0.7: SP 0.7. May to Sept. 1916 Jun. Asst., New York Public Service Comm., Sec. 3, Route 33, Tunnel Div.; Instrumentman. TT 0.4: P 0.4. Sept. 1916 to April 1918 Rodman, Jun. Engr., Interstate Commerce Comm., Bureau of Ry. Valuation; 1 year ran cross-section field party. TT 1.6: P 1.6: RC 1. May 1918 to June 1919 with U. S. Navy, layout and field work for U. S. Naval Air Station at Queenstown, Ireland. TT 0.7: P 0.7: RC 0.7. Aug. 1919 to Jan. 1920 Jun. Engr., Interstate Commerce Comm., Bureau of Ry. Valuation, Roadway and Track Party, responsible for computations. TT 0.4: P 0.4: RC 0.4. Jan. 1920 to Feb. 1921 Supt. of Constr., Tilden & Herzig, Inc., on work in New York City (jobs up to \$80 000). TT 1.1: P 1.1: RC 1.1. April 1921 to Aug. 1923 Gen. Contr., building in New York City, residences, and church and school alterations (jobs up to \$50 000); designed and constructed some alteration. TT 2.4: P 2.4: RC 2.4: D 0.2. Aug. 1923 to date Bldg. Estimator, Northeastern Constr. Co., New York City. TT 1.2: P 1.2. TT 10.4: SP 2.7: P 7.7: RC 5.5: D 0.2. Refers to H. A. Dunlap, H. W. Ferris, B. J. Hickey, A. Mazeau, G. J. Melse.

938 (1) SCHWIND, RAYMOND CHARLES, 52 Spruce Ave., Ridgefield Park, N. J. (Age 30. Born Rochester, N. Y.) 1920 B. S. in C. E., Clarkson Coll. Tech. May to Nov. 1920 Draftsman, Turner Constr. Co., New York City, on reinforced concrete buildings. TT 2.5. Nov.



1920 to Feb. 1921 Draftsman with Bogert & Pohl, New York City, on power development at Niagara Falls. *TT 0.2.* Feb. to Sept. 1921 Timekeeper on building work and Estimator with Tucker & Lewis, New York City. *TT 0.5.* Sept. 1921 to date Engr., Ferber Constr. Co., Hackensack, N. J., in charge of all engineering, estimating and buying. *TT 3: RC 3. TT 6.3: RC 3.* Refers to B. F. Batchelder, F. C. Boes, J. P. Brooks, W. S. Lozier, C. A. Pohl, L. W. Weed.

939 (1) STAUBACH, ARNOLD BALDWIN, Box 282, 318 West 57th St., New York City. (Age 26. Born North Tarrytown, N. Y.) 1918 B. S., Mass. Inst. Tech. Dec. 1918 to Aug. 1919 Structural Draftsman in shipyard, Wm. Cramp Ship & Engine Bldg. Co., Philadelphia, Pa. *TT 2.7.* Aug. 1919 to May 1920 Structural and Reinforced Concrete Designer, Purdy & Henderson Co., New York City. *TT 0.7.* May to July 1920 Timekeeper (Surveyor), American Concrete Steel Co., Newark, N. J. *TT 0.2.* July 1920 to Jan. 1924 Accountant, Office Mgr. Salesman, Burroughs Adding Machine Co., Newark. Jan. 1924 to date Structural Architectural Designer, Lockwood, Greene & Co., New York City. *TT 0.6. TT 4.2.* Refers to R. V. Banta, J. M. Barker, P. W. Norton, F. Peiser, N. A. Richards, H. V. Spurr.

940 (2) SUTHERLAND, CLARENCE HALE, Mass. Inst. Tech., Cambridge 9, Mass. (Age 40. Born Foxcroft, Me.) 1906 A. B., Harvard Coll.; 1911 S. B., Mass. Inst. Tech. June-Sept. 1909 Rodman, Pittsburgh, Cincinnati, Chicago & St. Louis Ry. July-Sept. 1910 Draftsman, Manitoba Bridge & Iron Co., Winnipeg. June to Sept. 1911 Draftsman, Phoenix Bridge Co., Phoenixville, Pa. *TT 2.2.* Jan. 1912 to Sept. 1913 Draftsman, Corrugated Bar Co., Buffalo, N. Y., detailing and designing reinforced concrete work. *TT 1.7: D 1.* Sept. 1913 to May 1917 Instructor in Civ. Eng., Massachusetts Inst. of Technology, teaching elementary theory of structures, reinforced concrete design, steel bridge design, theoretical hydraulics. June to Sept. 1914 Designer and Detailer, Corrugated Bar Co., Boston, Mass., miscellaneous small building work. June to Sept. 1915 Designer and Detailer, Stone & Webster Eng. Corporation, Boston, plans for new Massachusetts Inst. of Technology buildings, reinforced concrete design. June to Sept. 1916 Designer, Fred T. Ley Co., Springfield, Mass., building design in reinforced concrete. *TT 3.7.* May 1917 to Aug. 1919 1st Lieut. of Engrs., U. S. Army; in training camp (May-Aug. 1917), with troops, 8th Engrs. (Sept. 1917 to Feb. 1918) and 517th Engrs. (April-Nov. 1918), and on detached service with 20th Engrs., Forestry, France; from Nov. 1918-June 1919 with 20th Engrs., University Detail. *TT 1.2.* Sept. 1919 to date Asst. Prof. of Structural Eng., Massachusetts Inst. of Technology, theory of structures, reinforced concrete design, materials of construction. June to Sept. 1920 Designer of reinforced concrete fuel oil tanks and miscellaneous work, Fay, Spofford & Thorndike, Boston. *TT 5: RC 5. TT 12.7: RC 5: D 1.* Refers to B. A. Bowman, C. B. Breed, W. W. Clifford, H. B. Luther, L. E. Moore, D. Porter, C. M. Spofford.

941 (1) THOMPSON, WELLS NASH, Imperial Hotel, Tokyo, Japan. (Age 29. Born Adams, Mass.) 1919 B. Sc., Mass. State Coll.; 1921 C. E., Cornell Univ. June to Sept. 1914 Rodman on municipal survey, Pittsfield, Mass. *TT 2.3: SP 2.3.* June to Oct. 1919 Field Engr. on heavy grading and drainage project, Youngstown, Ohio. *TT 0.4: SP 0.4.* June to Oct. 1920 Asst. Engr. of surveys on construction of golf courses, and June 1921 to Jan. 1922 Designing Engr., concrete construction, with A. D. Taylor, Cleveland, Ohio. *TT 1: SP 1.* Feb. 1922 to date with H. K. Ferguson Co., Cleveland, until Feb. 1923 as Designing Engr., concrete construction, on design and details of various industrial buildings; then Designer, Checker and Estimator in responsible charge; and since Feb. 1924 Asst. to Chf. Engr. in charge of all engineering work of Company in Japan, notably designs for and reconstruction of Tokyo Elec. Co. Plant at Kawasaki, Toho Elec. Co. Power Station, and Nippon Elec. Co. Factory (all of earthquake resistive construction). *TT 2.4: SP 1.4: RC 1.4: D 1.4. TT 6.1: SP 4.7: P 1.4: RC 1.4: D 1.4.* Refers to H. S. Jacoby, R. E. J. Summers, L. C. Urquhart, F. J. Van Hook, H. C. Walton.

942 (8) TILLY, RAY VIRGIL, Pleasant Hill, Ill. (Age 29. Born Pleasant Hill, Ill.) 1924 B. S. in C. E., Univ. of N. Dak. Sept. 1921 to June 1923 and Sept. 1923 to June 1924 (part of time) Field Asst., Water Resources Branch, U. S. Geological Survey, on stream gauging and hydrography. June to Sept. 1923 Transitman, Bureau of Reclamation, Flathead Indian Reclamation Project, St. Ignatius, Mont., in full charge of hydrographic work. *TT 2: SP 2.* July 1924 to date Jun. Topographic Engr., Topographic Branch, U. S. Geological Survey on primary traverse. *TT 0.2: P 0.2. TT 2.2: SP 2: P 0.2.* Refers to F. L. Anders, G. E. Baker, E. F. Chandler, W. A. Lamb, J. A. McLean, C. J. Moody, W. H. Robinson, E. V. Willard.

**943 (5) TOVELL, CLARENCE EUGENE**, Reisterstown, Md. (Age 21. Born Reisterstown, Md.) 1924 B. E., Johns Hopkins Univ. June to Oct. 1920 Levelman, July to Oct. 1922 Carpenter's Helper and Timekeeper, placing reinforcing steel and pouring concrete, July to Oct. 1923 Draftsman in office, surveying and assisting in compiling estimates, and July 1924 to date in charge of alteration work, all for G. Walter Tovell, Contr. and Bldr., Baltimore, Md. TT 2.4: SP 2.4. Refers to J. H. Gregory, A. H. Krone, H. G. Perring, G. C. Saunders, V. B. Siems, J. T. Thompson.

**944 (2) TREAT, ROBERT SPERRY**, 60 Prospect St., Hartford, Conn. (Age 26. Born New Haven, Conn.) 1918 to 1922 Student, Sheffield Scientific School. Aug. 1917 to June 1918 Chainman, New York, New Haven & Hartford R. R. Co. TT 1.9: SP 1.9. June to Sept. 1918 Levelman, Location Dept., U. G. I. Contr. Co., Philadelphia, Pa., in charge of party. TT 0.3: SP 0.3. June to Sept. 1919 Transitman on surveys, etc., Buck & Sheldon Co., Inc., Cons. Engrs., Hartford, Conn., had charge of 10-in. pipe sewer construction TT 0.3: SP 0.3. June to Sept. 1920 with Charles A. Ferry, New Haven, Conn., as Transitman on completion of Yale Bowl, surveys, etc. TT 0.3: SP 0.3. July to Sept. 1921 with Connecticut State Forestry Service (Blister Rust Control), scouting and eradication work in new territory. TT 0.2: SP 0.2. June 1922 to April 1924 with Eng. Dept., Buck & Sheldon, Inc., as Transitman with survey party, inspection of sewers, buildings, water supply, New York-Connecticut State Line Survey; in charge of sewer construction in Farmington, Conn., inspection of school addition. TT 1.9: SP 1: P 0.9: RC 0.9. April 1924 to date in Bldg. Dept., same firm, drawing plans, new buildings and alteration work, steel and concrete design for 10-story store building, detailing and some designing. TT 0.5: SP 0.3: P 0.2: D 0.2. TT 5.7: SP 4.5: P 1.1: RC 0.9: D 0.2. Refers to C. T. Bishop, H. R. Buck, P. Sheldon, J. C. Tracy, P. R. Williamson.

**945 (7) ULLIUS, FREDERICK WILLIAM, Jr.**, 1305 Cramer St., Milwaukee, Wis. (Age 36. Born Milwaukee, Wis.) 1911 B. S., Civ. Eng. course, Univ. of Wis. June to Aug. 1911 Designing and Constr. Engr., Northwestern Concrete Co., Milwaukee, designed roof trusses, hollow sidewalks, supervised bar bending and installation of reinforcing steel. TT 2.2: SP 2: P 0.2: D 0.1. Aug. to Nov. 1911 Inspector of dredging at Oconto Harbor, Wis., for U. S. Govt. Engr. Office, Milwaukee. TT 0.3: P 0.3: RC 0.3. Nov. 1911 to April 1912 Tracer, then Material Checker and finally Office Asst. to Chf. Engr., Milwaukee Bridge Co. TT 0.3: SP 0.3. April 1912-March 1913 Rodman (1 month) and Instrumentman, Chicago, Milwaukee & St. Paul Ry. Co. TT 1: SP 0.1: P 0.9. April 1913 to May 1923 Village Engr., Water Registrar, St. Commr. and Bldg. Inspector for Village of Shorewood (suburb of Milwaukee). TT 10.1: P 10.1: RC 3.1: D 2. May 1923 to date Engr. of Sewers, Dept. of Public Works, Milwaukee, under Commr. of Public Works, design and in charge of construction of all sewers except intercepting sewers which are being built by Metropolitan Sewerage Comm. TT 1.2: P 1.2: RC 0.5: D 0.5. TT 15.1: SP 2.4: P 12.7: RC 3.9: D 2.6. Refers to W. D. Gerber, G. Glaetli, Jr., C. S. Gruetzmacher, T. C. Hatton, L. J. Klug, A. L. Kurtz, D. W. Mead, H. Y. Smith, L. S. Smith, K. H. Talbot, D. W. Townsend, F. E. Turneure, C. R. Weymouth, G. R. Young.

**946 (4) WATKINS, PAUL LANGLEY**, 1120 Mulberry St., Scranton, Pa. (Age 23. Born Scranton, Pa.) 1924 C. E., Rens. Pol. Inst. TT 2: SP 2. Refers to E. R. Cary, L. W. Clark, T. R. Lawson, W. P. Mason, P. C. Ricketts.

**947 (10) WHEAT, WINSTON EARL**, 1524 E. Blount St., Pensacola, Fla. (Age 31. Born Millview, Fla.) 1912 B. S. in Civ. and Min. Eng., Miss. Agri. and Mech. Coll. Registered Prof. Engr., State of Florida. Aug. to Nov. 1912 Inspector (concrete), U. S. Engrs., War Dept., Hale's Bar Dam, Guild, Tenn. TT 2.2: SP 2.2. Nov. 1912 to Feb. 1916 Inspector, 3d Dist., Mississippi River Comm., Vicksburg, Miss., inspection, instrument work and computing levee construction; after May 1914 Jun. Engr. in field charge of levee contracts and of government levee construction plant operation. TT 3.3: SP 1.2: P 2.1: RC 1.2. March 1916 to July 1919 Jun. Engr., War Dept., Ft. Pickens, Fla., surveys for harbor improvement, design and field charge of construction of fortifications, and highway construction on flood relief work. TT 3.3: P 3.3: RC 0.5: D 0.3. July 1919 to date Engr. of Paved Roads and Bridges (Chf. Engr.), Escambia County, Fla., directed surveys, designing, writing specifications and supervision of construction (aggregate \$2,225,000). TT 5.2: P 5.2: RC 5.2: D 5.2. TT 14: SP 3.4: P 10.6: RC 6.9: D 5.5. Refers to R. L. Bannerman, C. A. Browne, H. S. Gibboney, H. J. Morrison, R. Y. Patterson, J. R. Slade, A. M. Todd, R. M. Warfield.

948 (14) **WHITE, LEON VINCENT**, Care, Kansas State Agri. Coll., Manhattan, Kans. (Age 42. Born Manhattan, Kans.) 1903 B. S. in Eng., and 1918 C. E., Kans. State Agri. Coll. March 1904 to April 1905 Rodman, Union Pacific R. R., staking out and inspection of bridges and buildings. TT 3: SP 3. April 1905 to Feb. 1907 Transitman, Atchison, Topeka & Santa Fe R. R., on surveys and estimates; had charge of party on brick paving, 18th St. Yards, Chicago. TT 1.8: SP 0.8: P 1: RC 1. Feb. 1907 to Oct. 1909 Draftsman, San. Dist. of Chicago. TT 2.5: SP 2.5. Oct. 1909 to March 1910 Asst. Engr., Submerged and Shore Lands Investigating Committee of 47th Gen. Assembly of Illinois, comparison of shore lines and meanders of navigable waters in Illinois. TT 0.5: P 0.5: RC 0.5. March 1910 to Jan. 1911 in private practice as Irrigation Engr. at Fountain, Colo., on design and plans for Woodbury Flats and Younghollow Irrigation Projects near Wigwam, Colo. TT 0.8: P 0.8: RC 0.8: D 0.8. March 1912 to Oct. 1916 Head Draftsman, Illinois Valley Div., San. Dist. of Chicago, supervision of topographical maps, charts, diagrams, hydrographs, etc., in damage suits for overflow of bottom lands along Illinois River; in charge of field party on soundings, discharge measurements and thalweg of Illinois River; high-water investigations and reports of Illinois, Kankakee and Fox Rivers; investigation, compilation and report of drainage districts in Illinois Valley Watershed; acted as Expert Witness in cases at court. TT 4.5: P 4.5: RC 4.5: D 3. Nov. 1916 to March 1917 Field Engr. with Geo. W. Cummings, Contr., Chicago, installation of large unit tile conduit for Chicago Telephone Co., Harvey, Ill. TT 0.4: P 0.4: RC 0.4. March 1917 to Oct. 1918 Draftsman, Chf. Engr.'s office, Union Pacific R. R., Omaha, Nebr., design of changes in yard layouts, Omaha, Council Bluffs and Denver, compilation of U. P. Spiral Hand Book for Engineers and Roadmen; Squad Boss, Interstate Commerce Comm. maps. TT 1.5: SP 1: P 0.5: RC 0.5: D 0.5. Oct. 1918 to date at Kansas State Agricultural Coll., until Sept. 1920 as Asst. Testing Engr., Roads Materials Testing Laboratory, also Instructor in Surveying, Civ. Eng. Dept; since then Asst. Prof. in Civ. Eng., teaching surveying, civil engineering drawing and railway engineering. Summers 1921-1924 in charge of field work and design of Saline County No. 3 and Dickinson County No. 1 Drainage Dist., Kans.; campers' map, paving and drainage layouts, college campus, drainage projects, Mississippi County, Mo.; Federal Aid highway plans, McPherson and Riley Counties, Kans. TT 5.9: P 5.9: RC 5: D 1. TT 20.9: SP 7.3: P 13.6: RC 12.7: D 5.3. Refers to O. W. Boers, L. E. Conrad, D. H. Dugan, F. F. Frazier, M. W. Furr, C. E. Griggs, W. A. Guld, E. H. Hellbron, E. J. Kelly, H. A. Rowland, H. B. Walker, W. B. Wendt, A. R. Young.

949 (4) **WIEGNER, ANDREW NEWTON**, 48 Cooper St., Woodbury, N. J. (Age 21. Born Bethlehem, Pa.) 1924 C. E., Lehigh Univ. June to Sept. 1922 Bridge Shop Helper, Bethlehem Fabricators, Inc. June to Sept. 1923 Rodman, Chairman and assisting as Transitman, curve computations in field, Pennsylvania State Highway Dept. TT 2: SP 2. June 1924 to date Engr. with J. Owen Carter, Inc., Asst. on city and township surveying, drafting, inspection, preliminary sewer design. TT 0.3: SP 0.3. TT 2.3: SP 2.3. Refers to S. A. Becker, R. J. Fogg, M. O. Fuller, H. G. Payrow, W. L. Wilson.

950 (10) **WOOTTEN, BEN HILL**, 34 Cone St., Atlanta, Ga. (Age 28. Born Opelika, Ala.) 1912 and 1913 Rodman and Chairman for Knox T. Thomas, C. E., Atlanta, Ga. TT 2: SP 2. 1914 to 1915 Asst. to Chf. Engr., Tennessee Copper Co. TT 0.4: SP 0.4. March to July 1917 Leveler, Atlanta, Birmingham & Atlantic R. R. TT 0.4: SP 0.4. July to Sept. 1917 Masonry Inspector, Lockwood, Greene & Co., at Camp Gordon, Atlanta, TT 0.2: P 0.2. Sept. 1917 to March 1919 Master Engr., 425th Detachment, U. S. Army. TT 1.6: P 1.6. 1919 to 1920 Asst. to Supervisor, Vibrolith Co. of America, concrete road construction. TT 1: P 1: RC 0.5. July to Sept. 1922 Steelman, R. M. Walker Co., at Bynum, N. C., bridge over Haw River. TT 0.2: P 0.2. Jan. to July 1923 Transitman with C. S. Robert, Surveyor, Atlanta. TT 0.5: P 0.5. Aug. 1923 Instrumentman on road location at Kennesaw Mountain, Ga. TT 0.1: P 0.1. Sept. 1923 to date Res. Engr. on sewer construction, Asst. Engr. to Arthur Pew, Atlanta. TT 1: P 1: RC 1: D 1. TT 7.3: SP 2.8: P 4.5: RC 1.5: D 0.1. Refers to R. M. Clayton, W. A. Hansell, Jr., J. W. Hawkins, E. K. Large, A. Pew, L. W. Robert, Jr., F. W. Sampson.

951 (10) **WORCESTER, ROBERT JOSEPH HENDERSON**, 39 Hermitage Court, Charlotte, N. C. (Age 41. Born Boston, Mass.) May 1901 to May 1904 Private, Corporal and Sergeant, U. S. Army. TT 3: SP 3. July to Dec. 1904 Timekeeper and Foreman, Newark Paving Co. TT 0.5: SP 0.5. Jan. 1905 to Feb. 1907 with Westinghouse, Church, Kerr & Co., as Inspector on railroad electrification, etc., Rodman, Transitman and Foreman. TT 2.1: SP 2.1. May 1907 to Dec. 1909 with same Company as Transitman, Computer and Chf. of Party, field line and grade and office work. TT 2.6: SP 2.6. Jan. to July 1910

Foreman, Aberthaw Constr. Co., on reinforced concrete building construction, *TT 0.5; SP 0.5*. July 1910 to June 1913 with Westinghouse, Church, Kerr & Co., until April 1911 as Engr. and Asst. Supt.; Asst. in charge in field on construction of steam power plant and of mono-rail carrier for industrial plant; from April to July 1911 and Oct. to Dec. 1911 Asst. Engr., office work on appraisal for industrial plants; July to Oct. 1911 Engr. and Supt., starting construction of industrial plant (over 1 month) and in charge in field on construction of pile trestle and track for coal-storage track (over 2 months); after Dec. 1911 Asst. Engr., field and office work, investigation of water power, (over 2 months), line work and in charge of building sewer and water construction, railroad shops (1 year), and office designs and estimates (5 months). *TT 3: P 3; RC 1.3*. June 1913 to Aug. 1917 and June 1919 to May 1920 Engr. and Supt., Town of Concord, Mass., in charge of Dept. of Roads and Bridges, designs, estimates, purchase and approval of materials, supervision of construction. *TT 5.1: P 5.1; D 5.1*. Aug. 1917 to May 1919 First Lieut., Engrs., U. S. Army, in charge of construction, Camp Devens, and of road, bridge and trench construction in France. *TT 1.7: P 1.7; RC 1.7*. May 1920 to date with Lockwood, Greene & Co., Engrs., as follows: May 1920 to Nov. 1921 Res. Engr. in charge in field of construction of cotton mill and steam power plant; Nov. 1921 to Jan. 1922 Engr. on general office work; Jan. 1922 to May 1923 Res. and Constr. Engr. in charge in field of construction of hydro-electric plant and cotton mill; June 1923 to April 1924 Works Mgr. in charge in field of construction of worsted mill, steam power plant and mill village on Mgr. Engr. contract; since April 1924 Superv. Engr., negotiating new business, supervising designs, estimates and work from office, and general consulting. *TT 4.2: P 4.2; RC 3.8; D 0.4*. *TT 22.8: SP 8.7; P 14.1; RC 6.8; D 5.5*. Refers to E. J. Beugler, J. C. Boyd, P. B. Easterbrooks, S. B. Lincoln, J. H. O'Brien, J. N. Pease, F. C. Pillsbury, F. L. Reynolds, G. M. Tompson, J. T. Wardlaw, L. C. Wasson, J. R. Worcester.

## FOR TRANSFER

### FROM THE GRADE OF ASSOCIATE MEMBER

**952 (6) CAMPBELL, JOHN TITREVILLE**, Assoc. M., 1111 Union Bank Bldg., Pittsburgh, Pa. (Elected March 9, 1920.) (Age 36. Born Philadelphia, Pa.) 1910 C. E., Univ. of Pittsburgh. May 1910 to Aug. 1911 Draftsman, M. of W. Dept., Pennsylvania R. R., Lines West, on design, detailing and estimating. *TT 3.2: SP 2: P 1.2; D 1.2*. Aug. 1911 to Feb. 1912 Draftsman with Morris Knowles, Cons. Engr., Pittsburgh, Pa., on design and layout of sewer systems, sewage-disposal plants, pump stations, reservoirs, pipe-lines and general water-works engineering, also Inspector on construction. *TT 0.5: P 0.5; D 0.5*. Feb. 1912 to July 1913 Draftsman, American Water Works & Guarantee Co., on design and detailing of water-works projects. *TT 1.4: P 1.4; D 1.4*. July 1913 to Oct. 1915 Draftsman and Acting Asst. Engr., Bureau of Water, Pittsburgh, on North Side Reservoir, in charge of design and supervision over field work and estimates. *TT 2.2: P 2.2; RC 1; D 1.2*. Oct. 1915 to July 1918 Chf. Draftsman and Asst. Engr. with Chester & Fleming, Cons. Engrs., Pittsburgh, on design of filter plants, reservoirs, pipe-lines, sewer systems, sewage-disposal plants, pump stations, bridges and garbage incinerating plants. *TT 2.7: P 2.7; RC 2.7*. July 1918 to Jan. 1919 with U. S. Steel Corporation, Ordnance Dept., Neville Island Gun Plant, on power plant building design, concrete design, water purification plant design and layout retaining walls and docks. *TT 0.5: P 0.5; RC 0.5*. Jan. 1919 to date with The J. N. Chester Engrs., Pittsburgh, member of firm and Asst. Engr. in charge of design of water-works systems, sewage-disposal plants, sewerage systems, pump stations, reservoirs, dams, specifications and estimates and general field supervision over resident engineers; while in charge of design work planned, designed or constructed under supervision of firm includes filter plants for Batavia and North Tonawanda, N. Y.; Warren, East Liverpool, East Youngstown and Greenville, Ohio; Sheffield, Ala.; Meridian, Miss.; Wheeling and Keyser, W. Va.; Patton, Pa.; Pikeville, Ky.; and Shreveport, La., and extension of Erie Plant; sewerage and sewage disposal for Erie, Meadville, James City and Cresson, Pa.; Kennywood Park and Shadyside Acad., Pittsburgh, Pa.; Inland Collieries Co., Indianola, and West Penn Power Co., Springdale, Pa., North Tonawanda, N. Y., and Hazard, Ky. *TT 5.7: P 5.7; RC 5.7*. *TT 16.4: SP 2: P 14.4; RC 10; D 4.4*. Refers to J. T. Barr, L. P. Blum, J. N. Chester, J. Farris, J. F. Laboon, A. R. Raymer, W. A. Weldin.

**953 (15) CAPPEL, CURRY GLENN**, Assoc. M., 816 Howard Ave., New Orleans, La. (Elected Aug. 9, 1920.) (Age 32. Born Marksville, La.) 1912 B. S. in C. E., La. State Univ. June to Sept. 1912 Inspector for U. S. Govt. on concrete dam, testing cement and inspecting construction. *TT 2.2*. Sept. 1912 to April 1913 post-graduate work, Rensselaer



Polytechnic Inst. TT 0.7. April to Aug. 1913 Rodman, doing instrument work, New York Central & Hudson River R. R. TT 0.3. Aug. to Dec. 1913 Inspector on concrete dam construction, Alabama Power Co., Lock No. 12, Coosa River. TT 0.2. Dec. 1913 to Feb. 1914 private surveying. TT 0.2. Feb. 1914 to Oct. 1917 with Louisiana State Highway Dept., first as Res. Engr., July 1914 became Office Engr., and July 1915 Bridge Engr. TT 3.7: RC 2.2: D 3.2. Oct. 1917 to Sept. 1918 in private practice, construction work. TT 0.9. Sept. 1918 to June 1919 Chf. Inspector, New Orleans (La.) Army Supply Base, in responsible charge of construction inspection. TT 0.7: RC 0.7. June 1919 to Nov. 1920 Structural Engr. with Favrot & Livaudais, Archts., New Orleans, on design of structural steel and concrete buildings. TT 1.3: D 1.3. Nov. 1920 to Oct. 1921 Asst. Chf. Engr. and Gen. Mgr., Cia. Mexicana Contratista y de Ingenieros, S. A. (Subsidiary of Doullut & Williams Co.) on \$3 000 000 oil terminal, Tampico, Mexico, design and construction. TT 1: RC 1: D 1. Oct. 1921 to date Mgr., Bldg. Dept., Doullut & Williams Co., Inc., Engrs. and Contrs., New Orleans, La., design and construction of buildings of all classes. TT 8: RC 3: D 3. TT 14.5: RC 7.5: D 8.6. Refers to J. P. Ewin, H. J. Lane, B. S. Merrill, O. K. Olsen, L. C. Smith, W. H. Williams, J. K. Woolf.

954 (1) HALKYARD, CHARLES CYRIL, Assoc. M., View St., Sandy Bay, Tasmania. (Elected March 7, 1921.) (Age 35. Born South Yarra, Victoria, Australia.) 1911 B. C. E., and 1915 M. C. E., Melbourne Univ. TT 2: SP 2. Dec. 1910 to Feb. 1912 and Jan. to Oct. 1914 Eng. Draftsman, Victorian Rys., on design and preparation of drawings and contracts for various railway bridges and other structural works in steel, masonry and timber, and for duplication and renewal of railway viaduct in Melbourne. TT 1.9: SP 1.9. Feb. 1912 to Dec. 1913 with Hydro-Elec. Power & Metallurgical Co., Tasmania, until Oct. 1912 as Eng. Draftsman on surveys, designs, drawings, and set out in field for construction gangs of hydraulic headworks, including dams, intake, canal, pipe-line and power house; then Asst. Engr. on same work, also surveys and designs, and set out for 88 000-volt transmission line. TT 1.9: SP 0.7: P 1.2. Oct. 1914 to date with Hydro-Elec. Dept., Tasmania, as follows: Oct. 1914 to Dec. 1917 Headworks Engr. in charge of construction of headworks of 10 000-h. p. water-power scheme at Gt. Lake, Tasmania, including dams, canal, pipe-lines and power station; Dec. 1917 to Feb. 1920 Hydr. Engr. in charge of designs, construction and contracts for extensions of headworks of Gt. Lake Scheme to 18 000 h. p.; Feb. 1920 to May 1922 Engr. for Hydraulic Designs, in charge of all hydraulic designs and contracts for extension of Gt. Lake Scheme to 58 000 h. p. and surveys, designs and estimates for other proposed schemes (total over 300 000 h. p.); also charge of hydrometric survey of Tasmania; May to Dec. 1922 Engr. for Designs, in charge of same hydraulic work, and administrative charge of Elec. Designs Branch; since Jan. 1923 Hydr. Engr. in direct charge of hydraulic designs, construction, surveys and hydrometric work and Deputy Asst. Chf. Engr. with administrative control of all design and construction. TT 9.9: P 9.9: RC 3.2: D 6.7. TT 15.7: SP 4.6: P 11.1: RC 3.2: D 6.7. Refers to H. E. Bellamy, J. H. Butters, A. L. Galbraith, G. Higgins, W. H. R. Nimmo

955 (6) JACOBS, NATHAN BERND, Assoc. M., 507 Westinghouse Bldg., Pittsburgh, Pa. (Elected Junior Sept. 11, 1917; Assoc. M. April 14, 1919.) (Age 32. Born Pittsburgh, Pa.) 1914 B. S. in S. E., and 1917 San. Engr., Univ. of Pittsburgh. July to Sept. 1911 office, drafting and survey work, Douglass & McKnight, Mun. Engrs., Pittsburgh, Pa. Jan. to April 1912 Inspector, sanitary condition of Pittsburgh. Jan. to Sept. 1913 in field office, John F. Casey Co., on construction for City of Pittsburgh of additions to filtration plant, concreting 60-in. steel rising main and sewer construction. TT 2.7: SP 2.7. Dec. 1914 to date with Morris Knowles and Morris Knowles, Inc., as Member of Board of Directors (July 1917 to date) and Treas. (Feb. 1918 to date) of Morris Knowles, Inc., and Treas. and Director of Morris Knowles, Ltd. (July 1919 to date) and Mgr. of Knowles-Main Appraisal Bureau (since Jan. 1920); 6 months Draftsman on water-works design; then Asst. Engr., on water-works operation and management (2½ years intermittently) and on valuation of public utility properties (2 years), and Asst. Engr. in charge of special utility valuation assignments (about 1 year) and of valuation management, laboratory and office department (1½ years); past 4½ years Div. Engr. on valuation of public utilities and industrial enterprises, investigations, design and construction of public water supply systems, and sewage disposal, and in charge of office and laboratory. TT 9.5: SP 0.5: P 9: RC 7: D 7. TT 12.2: SP 3.2: P 9: RC 7: D 7. Refers to G. S. Davison, W. C. Hawley, M. Knowles, C. M. Reppert, J. M. Rice, M. R. Scharf, F. H. Snow, C. W. Tarr.

956 (14) MOHLER, JOHN DONALD, Assoc. M., City Hall, St. Joseph, Mo. (Elected Jan. 19, 1920.) (Age 37. Born in Cumberland County, Pa.) 1913 B. S. in C. E., Univ. of Mo. June 1909 to Sept. 1910 Rodman, and June to Sept. 1911 testing materials, cement, brick,

etc.; City Engr.'s office, St. Joseph, Mo. June to Sept. 1912 Instrumentman, Seitz Peterman Eng. Co., St. Joseph. *TT 3.3: SP 3.3.* July to Oct. 1913 Draftsman, Swift & Co., St. Joseph, on plans for alterations and changes in the plant. *TT 0.3: SP 0.3.* Jan. 1914 to May 1918 Rodman, Instrumentman, Computer and Asst. to Senior Roadway Engr., Interstate Commerce Comm., Bureau of Valuation, Kansas City, Mo.; 6 months in charge of cross-section party in field; 2 years Asst. to Senior Roadway Engr. handling correspondence with railroad officials and field parties. *TT 4.4: P 4.4: RC 2.* May 1918 to June 1919 Asst. City Engr., St. Joseph, in charge of design and construction of sewers, pavements, etc. *TT 1.2: P 1.2: RC 1.2: D 1.2.* June 1919 to Dec. 1922 Special Highway Engr., Buchanan County, St. Joseph, in charge of design and construction of roads and bridges; constructed about 75 miles of concrete and asphalt roads, and \$100 000 worth of concrete and steel bridges. *TT 3.5: P 3.5: RC 3.5: D 3.5.* Jan. to April 1923 Engr., Metropolitan Paving Co., St. Joseph, in charge of road construction. *TT 0.2: P 0.2: RC 0.2.* May 1923 to date Engr. of Sewers, St. Joseph, in direct charge of design and construction of main sewers. *TT 1.5: P 1.5: RC 1.5: D 1.5.* *TT 14.4: SP 3.6: P 10.8: RC 3.4: D 6.2.* Refers to J. N. Ball, H. F. Juengst, C. A. Shockley, L. B. Smith, C. C. Witt, J. S. Worley, A. R. Young.

**957 (6) SACKETT, GUY WOODFORD**, Assoc. M., 713 Diamond Bank Bldg., Pittsburgh, Pa. (Elected Oct. 14, 1919.) (Age 39. Born Ft. George, Fla.) 1919 graduated, School of Navigation and Marine Surveying, Tampa, Fla. Jan. to Aug. 1903 Instrumentman, Florida East Coast R. R., and on canal surveys. *TT 0.7: SP 0.7.* Aug. 1903 to Aug. 1908 with U. S. Engr. Dept., 2 years as Supt. on spray and survey boat destroying water hyacinths and surveying on St. Johns River, Fla., and 3 years 1st Officer and Navigator in charge of marine surveying, U. S. S. *St. Johns.* *TT 5: SP 3.2: P 1.8: RC 1.8.* Aug. 1908 to Dec. 1910 Chf. of Party of Surveyors on various surveys, also surveyed, planned and built summer resort at Anna Maria Beach, Fla.; Roland Woodward, Birmingham, Ala. *TT 2.3: P 2.3: RC 2.3.* Dec. 1910 to March 1916 Inspector and Supt., U. S. Engr. Dept., in charge of surveys, estimates, dredging and jetty design and construction, including docks, trestles, railroad and floating equipment to construct jetty, also fortification construction. *TT 5.2: P 5.2: RC 5.2.* April 1916 to May 1918 Chf. Engr. and Gen. Supt., Hillsboro Dredging Co., on levee construction on Mississippi River, built levee at New Madrid and East St. Louis, designed levee building equipment, dredges and booster pumping units. *TT 2: P 2: RC 2.* May 1918 to Jan. 1919 Field Engr. and Gen. Supt., Mason & Hanger Co., on construction of Charleston Port Terminals and Animal Embarkation Depot for U. S. War Dept. *TT 0.8: P 0.8: RC 0.8.* Jan. 1919 to May 1923 Civ. Engr. and Supt., Atlantic, Gulf & Pacific Co., on dredging Port Terminal Channels, 40-ft. channel from sea to Navy Yard, Charleston, Battery fill for City, Standard Oil Co. channel and fills, Charleston, dredging and fill for Virginian R. R. Sewall Point coal piers and terminals, including gravity yard fill, and other dredging and filling. *TT 4.5: P 4.5: RC 2.5.* June 1923 to date Gen. Supt., Duquesne Slag Products Co., Pittsburgh, Pa., handling (under contract) slag and mill refuse of Jones & Laughlin, Pittsburgh Steel Co. and others, Baltimore & Ohio R. R. waste, Pittsburgh Div., and Mesta Machine Works waste; in charge of construction and operation of four waste-disposal plants in Pittsburgh Dist., including construction of railroad's stern wheel steam-boat, four barges, 15-in. hydraulic dredge and derrick boat. *TT 1.4: P 1.4: RC 1.4.* *TT 21.9: SP 3.9: P 18: RC 16.* Refers to H. Abbott, D. D. Barlow, J. M. Braxton, W. H. Caldwell, J. J. Collins, W. W. Fineren, W. S. Fitzsimmons, L. T. Gaylord, F. E. Lamphere, W. V. McMenimen, C. H. Miller, A. J. Sackett, W. E. Sanford, R. Woodward.

**958 (10) SEIBERT, EDWARD CLEVER**, Assoc. M., U. S. Naval Station, Key West, Fla. (Elected Jan. 17, 1921.) (Age 30. Born near Hagerstown, Md.) 1914 C. E., Lehigh Univ.; 1917 M. S., Pa. State Coll. Part of summer 1912 Asst. to Div. Engr., Baltimore Sewerage Comm. Part of summer 1913 Mech. Draftsman, Didier-March Co., Didier, Pa., on design of machine parts. *TT 2: SP 2.* June to July of years 1914 and 1915 Asst. Instructor in Plane and Topographic Surveying, Summer School, Lehigh Univ. Sept. 1914 to June 1915 Instructor in Civ. Eng., Univ. of South Carolina. *TT 1: SP 1.* Sept. 1915 to June 1917 Instructor in Civ. Eng., Pennsylvania State Coll.; also graduate student. June to Aug. 1916 Computer, Miami Conservancy Dist., Dayton, Ohio. *TT 1.7: P 1.7.* June 1917 commissioned Asst. Civ. Engr., U. S. Navy, with rank of Lieut. (j. g.); part of summer 1917 student U. S. Naval Acad.; Aug. 1917 to June 1920 in (old) Second Naval Dist., at Newport, R. I., in Public Works Dept., construction work on powerplants, camps, wharves, etc.; approx. 6 months Acting Public Works Officer at Newport; Oct. 1917 became Lieut. (temporarily); since June 1920 Lieut.; June 1920 to July 1922 Civ. Engr., U. S. Navy Yard, Washington, D. C.; July 1922 to March 1923 at Bureau of Yards and Docks, Navy Dept., on design of U. S. Veterans' Hospital, Gulfport, Miss.; March 1923 to Aug. 1924 Officer in

charge of construction of same hospital (contract work approx. \$727 000); since Aug. 1924 Public Works Officer, Naval Operating Base, Key West, Fla., and of 7th Naval Dist. *TT 6.1: P 6.1: RC 5.4: D 0.7. TT 10.8: SP 3: P 7.8: RC 5.4: D 0.7.* Refers to R. E. Bakenhus, L. E. Gregory, S. L. McGlathery, G. A. McKay, H. H. Rousseau, E. D. Walker.

959 (1) SERAN, HARRY A., Assoc. M., U. S. Coast and Geodetic Survey, Manila, Philippine Islands. (Elected March 9, 1920.) (Age 37. Born New Philadelphia, Ohio.) 1905-1907 student, Hiram (Ohio) Coll. July 1907 to date Officer, U. S. Coast and Geodetic Survey, engaged as follows: July 1907 to July 1910 Aid, on hydrography, topography, etc.; July 1910 to May 1912 Asst., Executive Officer and Prin. Asst., combined operations, U. S. S. *Romblon*, Philippine Islands; Aug. to Nov. 1912, May to Nov. 1913 and April to Nov. 1914 Chf. of Party, telegraphic determinations of longitude, Dakotas, Wyoming, Colorado and Montana, topographic revisions, Puget Sound, Wash., and secondary triangulation, Oregon, California and Washington; April to Nov. 1915 Prin. Asst., combined operations, U. S. S. *Patterson*, Alaska; Dec. 1912-April 1913, Dec. 1913-March 1914, Dec. 1914-March 1915 and Dec. 1915-Jan. 1916 in Washington office on geodetic computations and preparations for field work; March to June 1916 Prin. Asst., offshore hydrography, Georgia, U. S. S. *Bache*. June 1916 to Oct. 1917 Chf. of Party and Commanding Officer, U. S. S. *Hydrographer*, combined operations, Mississippi Sound; Oct. 1917 to March 1919 with U. S. Naval Reserve Force, as Lieut. Commander, Executive Officer, U. S. S. *Surveyor* (11 months), Navigator and First Lieut., U. S. S. *Siboney* (7 months); April 1919 to Sept. 1921 Chf. of Party and Commanding Officer, U. S. S. *Bache*, combined operations and offshore hydrography, Atlantic and Gulf Coasts; Oct. 1921 to Jan. 1922 Asst. Chf., Sec. Vessels and Equipment; Jan. to Sept. 1922 in charge of alterations to mine sweepers; Oct. 1922 to Nov. 1923 Chf. of Party and Commanding Officer, U. S. S. *Discoverer*, oceanography and combined operations, first in Southern California, then in Alaska; since March 1924 Director of Coast Surveys, in charge of all work in Philippine Islands, both Federal and Insular. *TT 15.1: P 15.1: RC 8.1: D 8.2.* Refers to W. Bowie, L. O. Colbert, R. L. Faris, C. V. Hodgson, E. L. Jones, W. E. Parker.

960 (2) SHAW, ARTHUR LASSELL, Assoc. M., Care, Metcalf & Eddy, 14 Beacon St., Boston, Mass. (Elected April 18, 1916.) (Age 37. Born Clinton, Mass.) 1909 S. B., Mass. Inst. Tech. Sept. 1909 to June 1910 Asst. Instructor, Civ. Eng. Dept., Massachusetts Inst. of Technology. *TT 2.8.* July 1910 to April 1911 Draftsman, Office of Engr. of Structures, Boston & Albany R. R., on designs for strengthening existing bridges and for new bridges to carry heavier locomotives, and miscellaneous work. *TT 0.7: D 0.5.* April 1911 to June 1914 Asst. Engr. with Barrows & Breed, Cons. Engrs., Boston, on surveys, grade-crossing elimination studies and estimates, water-power development studies and miscellaneous projects. *TT 3.2: RC 2: D 2.* June 1914 to May 1917 Res. Engr. in charge of projects at Fall River, Mass., for H. K. Barrows, Cons. Engr., Boston, surveys, design and construction of intercepting conduit, pumping station, etc., on surveys and studies for additional water supply and sanitary projects. *TT 3: RC 3: D 2.* May 1917 to July 1919 Capt., Engrs., U. S. Army, with 301st Engrs., A. E. F., as Co. Commander and Regimental Adjt., on road construction, wire entanglements, etc., and with Army of Occupation. *TT 2.2: RC 2.2.* Aug. 1919 to date with Metcalf & Eddy, Cons. Engrs., Boston, until Feb. 1921 as Asst. Engr. on studies, designs, estimates and reports for miscellaneous water supply and sanitary engineering projects; since then Designing Engr. in charge of draftsmen and engineering staff on miscellaneous projects, involving studies, design and construction of numerous water works, sewerage and sewage-treatment works, etc. *TT 5.2: RC 4.7: D 5.2. TT 17.1: RC 11.9: D 9.7.* Refers to H. K. Barrows, H. P. Eddy, F. A. Marston, L. Metcalf, C. W. Sherman, E. S. Warner, J. P. Wentworth.

961 (1) SHELENBERGER, LEIDY RUDY, Assoc. M., 19 East 42d St., Bayonne, N. J. (Elected May 2, 1900.) (Age 59. Born in Hilltown Township, Pa.) 1891 C. E. Lehigh Univ. 1891 to 1895 Draftsman in several small iron works. *TT 6.4: SP 2: P 4.4.* Nov. 1895 to Sept. 1903 with Pencoyd Iron Works and American Bridge Co., at Pencoyd, Pa. *TT 7.8: P 7.8: RC 3.* Sept. 1903 to Nov. 1904 made preliminary surveys and design for New Union Station, at Cincinnati, Ohio; Engr. *TT 1.2: P 1.2: RC 1.2: D 1.2.* Nov. 1904 to March 1908 designer with Archts. on Grand Central Station, New York City. *TT 3.3: P 3.3: RC 3.3: D 3.3.* March 1908 to March 1912 and Jan. 1913 to Jan. 1917 Designer, Public Service Comm., New York City. *TT 8: P 8: RC 6: D 8.* March 1912 to Jan. 1913 Secy. and Treas., Bayonne Launch Co. *TT 0.8: SP 0.8.* Jan. 1917 to June 1919 Designer, Chile Exploration Co., New York City. *TT 2.4: P 2.4: RC 2.4: D 2.4.* June 1919 to Dec. 1920 Designer with Westinghouse, Church, Kerr & Co., and Dwight P. Robinson, New York City. *TT 1.5: P 1.5: RC 1.5: D 1.5.* Oct. 1921 to Sept. 1924 Asst. Engr.,

Vehicular Tunnel Comm., New York City. TT 2.9: P 2.9: D 2.9. Sept. 1924 to date Chf. Bridge Designer, Route No. 1 Extension, New Jersey State Highway Comm. TT 0.1: P 0.1: RC 0.1: D 0.1. TT 34.4: SP 2.8: P 31.6: RC 17.5: D 19.4. Refers to H. G. Balcom, O. L. Brodie, A. W. A. Eden, D. Robertson, O. Singstad, R. Smillie, E. Welle.

962 (6) SMITH, EVERETT CLERC, Jr., Assoc. M., 302 Union Trust Bldg., Parkersburg, W. Va. (Elected April 18, 1916.) (Age 38. Born Ravenswood, W. Va.) 1913 B. S. C. E. W. Va. Univ. June 1909 to Aug. 1910 Structural Draftsman, American Bridge Co., Ambridge, Pa. TT 3.2: SP 2: P 1.2. Aug. to Nov. 1910 Asst. Engr., Hutchinson Coal Co., Fairmont, W. Va., on mine surveys and designing mine plants. TT 0.3: P 0.3: RC 0.3: D 0.2. Nov. 1910 to Feb. 1916 with Isthmian Canal Comm. and Panama Canal, Canal Zone, as follows: Nov. 1910 to Nov. 1911 Foreman on Steel erection, Gatun Locks; Nov. 1911 to Aug. 1912 Inspector, Elec. and Mech. Engr.'s Div., being Acting Inspector-in-Chg. from April to Aug. 1912; Aug. 1912 to July 1914 Inspector-in-Chg., same Div., in responsible charge of inspection on the Isthmus of all material for Elec. and Mech. Engr.'s Sub-Div. of First Div., Chf. Engr.'s Office; July 1914 to Jan. 1915 Jun. Engr. Fortification Div., Asst. to Engr. in Chg., general supervision over construction, and designing and laying out structures; Jan. 1915 to Feb. 1916 Asst. Engr., Div. of Terminal Constr., in charge of inspection and erection of all contractor's work (except mechanical and electrical) in construction of Cristobal Coaling Station (about \$600 000 worth of construction), also checking contractor's designs. TT 5.3: P 5.3: RC 3.9: D 1. April 1916 to April 1918 member of firm, Ohio Valley Constr. Co., Pt. Pleasant, W. Va., engineering and contracting, designed highway bridges, retaining walls, mine structures, railroad sidings for mine developments, highways, etc.; constructed highway bridges, river gauges, shafts and tunnel, railroad sidings, highways, etc. TT 2: P 2: RC 2: D 1.5. April 1918 to Aug. 1919 Capt., 34th Engrs. U. S. Army, 1 year in France. TT 1.3: P 1.3: RC 1.3. Aug. 1919 to date member of firm, Smith & Quynn, Engrs. and Contrs., Parkersburg, W. Va., consulting engineering and contract construction work; designing various types of engineering structures in concrete, structural steel, wood and earth; constructed various kinds of structures, including bridges, highways, foundations, etc. TT 5.1: P 5.1: RC 5.1: D 2.5. TT 17.2: SP 2: P 15.2: RC 12.6: D 5.2. Refers to R. P. Davis, W. S. Downs, C. P. Fortney, W. O. McClusky, Jr., H. E. Snyder.

963 (12) STOCK, ROLAND HENRY, Assoc. M., Oakville, Wash. (Elected June 6, 1921.) (Age 35. Born Warren, Mich.) 1913 B. C. E., Univ. of Mich. Sept. 1910 to June 1912 Instructor in Physics, High School, Michigan City, Ind. June to Sept. 1911 Rodman, Instrumentman and Inspector, Eng. Dept., Gary, Ind. TT 3.8: SP 3.8. July to Sept. 1912 Engr., Mineral Springs Jockey Club, Porter, Ind., on layout of race-course, grand stand, etc. TT 0.2: P 0.2: RC 0.2. Sept. 1912 to July 1913 Asst. in Surveying, Univ. of Michigan. TT 0.8: SP 0.8. Aug. 1913 to March 1917 Surveyman and Jun. Engr., U. S. Reclamation Service, Flathead Project, Mont., on irrigation location, design and construction, canals, dams, tunnels, etc. TT 3.8: P 3.8: RC 3: D 1. April 1917 to Jan. 1918 Asst. Supt. of Constr., Junction Dam, Consumers Power Co., \$2 500 000 development, in charge of construction. TT 0.8: P 0.8: RC 0.8: D 0.8. Jan. 1918 to July 1919 First Lieut. and Capt., Engrs., U. S. Army, 1 year in France, in charge of road work and quarry at Montoir, Base Sec. 1 (6 months) and of repairs to 150 miles of road and operation of quarries, Meuse-Argonne and St. Mihiel (6 months). TT 1.6: P 1.6: RC 1.6: D 0.8. Aug. 1919 to Jan. 1920 in charge, conversion of pulp mill into hydro-electric plant, Bar Mills, Me., for Cumberland County Power & Light Co. TT 0.5: P 0.5: RC 0.5. Jan. to Sept. 1920 in charge of under-water repairs, grouting foundation of Decorah (Iowa) Dam, Interstate Power Co. TT 0.6: P 0.6: RC 0.6: D 0.6. Sept. 1920 to Dec. 1922 Capt., Corps of Engrs., U. S. Army, 5 months building officers' quarters, Camp Grant, Ill., 1½ years Commanding Officer of Headquarters and Service Co., and Supply Officer, 3d Engrs., on surveys and construction work at Schofield Barracks, Hawaii. TT 2.1: P 2.1: RC 2.1: D 2.1. Dec. 1922 to Aug. 1923 Supt. of Constr., Parker-Schram Co., diking and drainage work, Aberdeen, Wash., ditches (70 miles), clearing (70 acres) and street grading (10 miles). TT 0.6: P 0.6: RC 0.6. Aug. 1923 to date Engr., National Lumber & Mfg. Co., Hoquiam, Wash., in charge, location and construction of logging railroads in rough country and work involving design of all structures. TT 1.2: P 1.2: RC 1.2: D 1.2. TT 15.9: SP 4.6: P 11.4: RC 10.6: D 6.5. Refers to H. F. Cameron, F. T. Crowe, W. G. Fargo, C. T. Johnston, L. T. Kniskern, C. J. Moody, F. Morley.

964 (5) TAYLOR, MARCUS PREVOST, Assoc. M., Care, Tubize Artificial Silk Co., Hopewell, Va. (Elected May 12, 1919.) (Age 33. Born Denver, Colo.) 1913 B. S. in C. E., Univ. of Ill. June to Sept. of years 1911 and 1912 Rodman, Chicago, Burlington & Quincy R. R.



TT 2: SP 2. June 1913 to April 1914 Recorder and Surveyor, U. S. Engr. Dept., Kansas City, Mo., cost records of Missouri River improvement work; preparing maps, 2 months in responsible charge of work at St. Joseph, Mo. TT 0.9: SP 0.7: P 0.2: RC 0.2. May 1914 to Feb. 1915 Res. Engr. with Ewing & Allen, Cons. Engrs., Chicago, Ill., in field charge of construction of municipal improvements, sidewalks, paving, water supply and sewers (aggregating \$150 000). TT 0.8: P 0.8: RC 0.8: D 0.2. March to Dec. 1915 member of firm, Shaw & Taylor, Drainage Engrs. and Contra., Des Plaines, Ill., design and construction of drainage works. TT 0.8: P 0.8: RC 0.8: D 0.2. Jan. 1916 to May 1917 Transmittan and Res. Engr., C. B. & Q. R. R., on location, rerunning lines, and preliminary work for construction; estimates and miscellaneous surveys. TT 1.4: P 1.4: RC 1.4. May 1917 to July 1920 1st Lieut. and Capt., U. S. Engrs., training engineer troops and instructing in Engr. Officers' Training Camp, 6 months in charge of military road location, Hawaiian Territory, over 1 1/4 years in charge of Aerial Mapping, Southern Dept. TT 3.2: SP 1.1: P 2.1: RC 1.8: D 0.5. Aug. 1920 to date Field Engr. on construction, Constr. Engr., and Asst. Maintenance Engr., Tubize Artificial Silk Co. of America, construction and maintenance of industrial buildings and equipment of all kinds. TT 4.2: P 4.2: RC 4.2: D 2. TT 13.3: SP 3.8: P 9.5: RC 9.2: D 2.9. Refers to W. H. Allen, I. O. Baker, C. E. DeLeuw, G. C. Haydon, F. W. Honens, R. H. Murray, A. N. Talbot, F. R. Weeks, W. C. Weeks.

965 (7) TROUT, ALEXANDER LINN, Assoc. M., 1333 Willmot St., Ann Arbor, Mich. (Elected April 1, 1914.) (Age 38. Born Detroit, Mich.) 1905 B. A., and 1910 B. Ch. E., Univ. of Mich. Oct. 1905 to May 1906 Surveyor, Pacific Elec. Co., Los Angeles, Cal. May to Oct. 1906 Surveyor, City of Hollywood. TT 3. Oct. 1906 to April 1907 Sales Engr. for John Crockett, Glasgow, Scotland. TT 0.4. April to Oct. 1907 Draftsman, and June 1908 to Oct. 1909 Checker and Squad Boss, Whitehead & Kales Iron Works. TT 2.8. Oct. 1907 to March 1908 Draftsman, American Bridge Co., Detroit, Mich. TT 0.5. June to Oct. 1910 Checker, and Sept. 1911 to Nov. 1912 Chf. Draftsman, Lewis Hall Iron Works, Detroit. TT 1.5: RC 1.2: D 1.2. Oct. 1910 to Sept. 1911 Sales Engr., Smith Gas Power Co. TT 0.9. Nov. 1912 to Aug. 1914 Asst. Engr. with Albert Kahn, Detroit. TT 1.7: RC 1.7: D 1.7. Aug. 1914 to Sept. 1917 and June 1919 to Feb. 1922 in private practice as Cons. Engr., at Detroit. TT 5.7: RC 5.7: D 5.7. Sept. 1917 to March 1919 Capt., Engrs., U. S. Army. TT 1.5: RC 1.5: D 1.5. Feb. 1922 to Sept. 1924 in private practice as Cons. Engr., also Special Student and (after Sept. 1923) Associate Prof. of Architecture, teaching Architectural Eng., Univ. of Michigan. TT 2.6: RC 2.6: D 2.6. TT 19.6: RC 12.7: D 12.7. Refers to C. Y. Dixon, G. H. Fenkell, J. T. N. Hoyt, G. F. Porter, H. E. Riggs, F. H. Stephenson.

966 (10) WRIGHT, STANLEY HUBERT, Assoc. M., Hendersonville, N. C. (Elected Sept. 3, 1913.) (Age 38. Born London, England.) Licensed Prof. Engr., States of Pennsylvania and North Carolina. 1902 to 1920 with American Pipe & Constr. Co., Philadelphia, Pa., during 1902 as Inspector on construction of 10 000 000-gal. circular reservoir, including installation of low-service pumps and piping connections, etc.; 1903 much of time in drafting room on tracings and pipe-line plans; also Rodman; 1904 to 1906 Asst. to Res. Engr. on construction of a water-works system, made the topographical surveys and drawings, inspected and laid out the work and kept cost account; 1906 and 1907 designed and Res. Engr. on construction of circular reservoir (earth embankment lined with concrete, 5 000 000 gal.); and had charge of two other similar reservoirs; 1907 to 1909 on office work in preparation of water-supply scheme of Pennsylvania R. R. from Philadelphia to Pittsburgh (about 4 months), and other work in reservoir and pipe-line location; designed and later Res. Engr. on construction of two earth dams (1 020 and 800 ft. long, 45 and 65 ft. high), designed the spillways and kept cost account of the work; made plans for 12-in. pipe-line crossing Monongahela River on iron bridge; inspected several large masonry dams; made foundation examinations and cement grouting under pressure; also work on design of several steel standpipes, and design of two pumping station layouts; also during operation of numerous water-works systems had to do with their design and operation; 1910 on completion of construction of hydro-electric development on Schuylkill River, Manayunk, Pa., completed construction of the building above foundations, installed gas and electric machinery and operated the plant for 1 month; 3 months on leave of absence visiting hydro-electric plants, etc.; 1911 to 1914 made surveys for additions to water supply of Hagerstown, Md., and designed and prepared plans and specifications for earthen dam (70 ft. high) for the Contr. Engr.; designed 2 000 000-gal. booster pumping station for High Ridge Water Supply Co. and a smaller one for Syracuse Suburban Water Co.; during winter (5 months) computed rainfall and stream-flow data, etc.; improved operating conditions or designed additions to various water-works systems, etc.; directed grouting of deep cut-off trench for a reservoir

and (temporarily) Res. Engr. on construction of large dam for Lehigh Coal & Navigation Co.'s steam-electric plant at Hauto, Pa.; designed a 3 000 000-gal. filter plant at South Bethlehem, Pa.; 1915 to 1916 designed and constructed reinforced concrete reservoir (2 000 000 gal.), installed additional pumping machinery and filters for Media, Pa., and began inventory and appraisal of various water-works plants, etc.; 1917 made surveys and prepared plans for water supply for Camp Sevier, S. C.; as Vice-Pres. of Scofield Eng. Co. reported on possibilities for new water supply for Portsmouth Navy Yard and for Portsmouth, Berkeley and Suffolk; directed inventory and appraisal of Portsmouth, Berkeley & Suffolk Water Co. (value \$3 000 000), etc.; designed 6 000 000-gal. wooden filter plant for Norfolk, Va., district; 1918 to 1919 Prin. Asst. Engr., much of time on field investigations and preparing data for reports; work involved design of three dams (200 ft. high) and hydrographic studies; designed and supervised construction of masonry dam (40 ft. high, 600 ft. long) on Crum Creek for Springfield Consolidated Water Co., and made inventory and appraisal of plant of Wyoming Valley Water Supply Co. (value \$2 000 000). *TT 18: SP 5: P 13: RC 10: D 5.* 1920 to 1922 associated with J. W. Ledoux, Cons. Engr., Philadelphia, on water supplies and power plants, appraisals, etc., including work for Clarion River Power Co., Lehigh Coal & Navigation Co., Lehigh Valley Coal Co. (an appraisal of plant of Girard Water Co.), proposed new water supply for City of Philadelphia, and water power pumping plant for Clear Springs Water Co. *TT 2: P 2: RC 2: D 2.* 1922 to 1924 Hydr. Engr., Gilbert C. White Co., Durham, N. C.; reported on new gravity water-supply system for Hendersonville, N. C., designed this work and in charge of construction (to cost about \$600 000); also reported on similar project for Hickory, N. C., including hydro-electric development of Catawba River at that point; during 1922 for Scofield Eng. Co. directed appraisals for City of Philadelphia of properties to be condemned for new Delaware River Bridge. *TT 2: P 2: RC 2: D 2.* April to Sept. 1924 Mng. Engr., Board of Water Commrs., Hendersonville, N. C. *TT 0.4: P 0.4: RC 0.4.* Sept. 1924 to date Chf. Engr. for Laurel Park Estates, Inc., \$2 000 000 construction program of hard-surface highways, sewage disposal, subdivision and design, etc. *TT 0.1: P 0.1: RC 0.1: D 0.1.* *TT 22.5: SP 5: P 17.5: RC 14.5: D 7.1.* Refers to J. E. Gibson, J. W. Ledoux, C. F. Puff, Jr., E. M. Scofield, G. M. Scofield, G. C. White, D. H. Whitmer.

#### FROM THE GRADE OF JUNIOR

967 (13) GORMAN, SIDNEY SILVEY, Jun., 778 Faxon Ave., San Francisco, Cal. (Elected Sept. 12, 1921.) (Age 26. Born San Francisco, Cal.) 1920 B. S., Coll. of C. E., Univ. of Cal. May to Sept. 1918 Draftsman with A. R. Kelley, Valuation Engr., San Francisco, Cal., collecting and compiling data. June to Aug. 1919 Draftsman with City Archt., San Francisco. *TT 2: SP 2.* May to Aug. 1920 Asst. Engr., U. S. Indian Service, Los Angeles, Cal.; Asst. to Designing Engr. on irrigation structures for Parker Project, reinforced concrete and structural steel design. *TT 0.2: P 0.2: RC 0.1: D 0.1.* Aug. 1920 to July 1921 Asst. Engr. with J. B. Leonard, Cons. Engr., San Francisco, on design of reinforced concrete arch bridges and Res. Engr. on construction of test highway at Pittsburg, Cal. *TT 0.9: P 0.9: RC 0.3: D 0.3.* Sept. 1921 to Jan. 1922 Jun. Hydr. Engr., State of California, in charge of collecting and compiling irrigation data at Berkeley for California Water Resources Investigation. *TT 0.4: P 0.4: RC 0.4.* Jan. to March 1922 Designing Engr. with Frank G. Baum, Cons. Engr., on reinforced concrete structures for power-house, substations, surge chambers, spillway, etc., for Pit River construction of P. G. & E. Co. *TT 0.2: P 0.2: RC 0.2: D 0.2.* March 1922 to July 1923 Engr. with John Galen Howard, Archt., San Francisco, on preliminary stadium designs; design of structural steel power-house; Res. Engr. in charge of construction of power-house. *TT 1.3: P 1.3: RC 1.1: D 0.6.* July to Sept. 1923 and Oct. to Nov. 1923 Engr. with Weeks & Day, Archts. and Engrs., on design of 6-story reinforced concrete warehouse building. *TT 0.2: P 0.2: RC 0.2: D 0.2.* Sept. to Oct. 1923 with H. D. Dewell, Cons. Engr., San Francisco, Draftsman and Designer on buildings, towers, pools, etc. *TT 0.1: P 0.1.* Nov. 1923 to date Res. Engr., Standard Sanitary Mfg. Co., San Francisco, on construction of 6-story reinforced concrete warehouse building; J. B. Leonard, Cons. Engr. *TT 0.8: P 0.8: RC 0.8.* *TT 6.1: SP 2: P 4.1: RC 3.1: D 1.4.* Refers to L. Aldrich, S. Barfoed, T. F. Chace, C. Derleth, Jr., H. D. Dewell, B. A. Etcheverry, H. B. Hammill, J. B. Leonard, F. C. Scobey.

968 (1) TRIANA, JORGE, Jun., P. O. Box No. 5, Bogota, Colombia. (Elected March 11, 1919.) (Age 31. Born Bogota, Colombia.) 1912 C. E., Colombia National Univ. Dec. 1908 to Feb. 1909 (while student) on topographic surveying and establishment of machinery for coffee plantations. Dec. 1910 to Feb. 1911 (while student) on erection of Colegio Bridge over Bogota River. Dec. 1911 to Jan. 1912 (while student) on project for distribution of

electric light for Town of Zipaquirá, Colombia. TT 2: SP 2. Jan. 1913 to Sept. 1914 Asst. Engr. in Dept. of Permanent Way Material Conservation of Sabana R. R. (now Ferrocarril de Cundinamarca) and Chf. of the Dept. in charge of construction of terminal station of Bogota. TT 1.7: SP 1.7. Sept. 1914 to March 1916 Third Engr. and Chf. of Dept. of Design, Ministry of Public Works of Colombia; with Miguel Triana made plan of Magdalena River between Girardot and the mouths in an extension of 1 046 km. TT 1.5: P 1.5: RC 1.5. March 1916 to Dec. 1923 with Tolima R. R., until Oct. 1918 as Asst. Engr. on construction; Transit Engr. in surveying and location; then Chf. Engr. on construction (76 km.) between Flandes and Ibagué (2½ years) and Chf. Engr. in charge of Dept. of Traffic (Supt.) (3 years). TT 7.8: P 7.8: RC 5.2. Dec. 1923 to Jan. 1924 Contr. for erection of Castañala Viaduct, Tolima R. R. (structure 54 m. long, 28 m. high, total cost \$50 000). TT 0.1: P 0.1: D 0.1. April 1924 to date Chf. Engr. in surveying, location and construction of Ferrocarril de Cundinamarca (200 km. between Bogota and Magdalena River). TT 0.5: P 0.5: D 0.5. TT 13.6: SP 3.7: P 9.9: RC 6.7: D 0.7. Refers to C. S. Bilyeu, J. Fajardo, M. Triana. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

*The Board of Direction will consider the applications in this list not less than thirty days after the date of its issue.*